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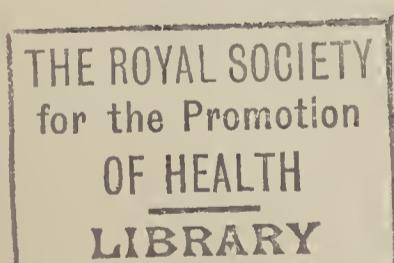
DEPARTMENT OF PUBLIC HEALTH, NEW SOUTH WALES



REPORT  
OF THE  
DIRECTOR-GENERAL  
OF  
PUBLIC HEALTH

NEW SOUTH WALES

1948



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# DEPARTMENT OF PUBLIC HEALTH, NEW SOUTH WALES.

OFFICE OF THE DIRECTOR-GENERAL OF PUBLIC HEALTH,  
93 Macquarie-street and 52 Bridge-street. Sydney.

## Members of the State Board of Health, 1948.

Dr. E. S. MORRIS (President); Dr. H. G. WALLACE; Dr. CECIL PURSER; Dr. C. J. M. WALTERS; R. J. HAWKES, Esq.; R. J. BARTLEY, Esq.; J. SMITH, Esq.; Miss M. GROVE; Mrs. C. M. MELVILLE; Mrs. E. G. CLANCEY.

## Administrative Staff.

*Director-General of Public Health and Commissioner for Venereal Diseases*—E. SYDNEY MORRIS, M.D., Ch.M., D.P.H.

*Deputy Director-General of Public Health, Director of Tuberculosis Division and Senior Medical Officer of Health*—HUGH GILMOUR WALLACE, M.B., B.S., D.P.H.

*Metropolitan Medical Officer of Health*—JOHN GRAHAME DREW, M.B., B.Ch., M.R.C.S., L.R.C.P., D.P.H., D.T.M., D.T.H., F.R.San.I.

*Assistant Medical Officer of Health*—BRUCE ROBSON OVEREND, M.B., Ch.M., D.P.H., D.T.M., D.T.H.

*Secretary*—JAMES VALENTINE BOYLE.

## Divisions and Branches.

The following divisions are controlled by the Director General of Public Health:—Maternal and Baby Welfare; Tuberculosis; Social Hygiene; Industrial Hygiene; Government Medical Officers for Sydney; Medical Officers of Health, Metropolitan, Newcastle, South Coast, Mitchell, Richmond-Tweed and Broken Hill Districts, Microbiological Laboratory, Chemical Laboratory; Health Education; Pure Food; Sanitation, &c.

The Hospital Division comprises The David Berry Hospital, three State Hospitals and Homes, Waterfall Sanatorium (Tuberculosis) and Auxiliary at Randwick, Strickland Convalescent Hospital, Vaucluse.

## Legislative Enactments.

The Minister of Health is charged with the administration of the following Acts, for the promotion of the Public Health, execution of which is left to the Director-General of Public Health and the staff working under his control:—Food Preservation by Sulphur Dioxide Enabling Act, 1920; Noxious Trades Act, 1902; Private Hospitals Act, 1908; Public Health Acts, 1902-1944; Pure Food Act, 1908; King George V and Queen Mary Maternal and Infant Welfare Foundation Act, 1937. Burials in closed cemeteries and the exhumation of bodies for the purpose of re-interment, &c., are also dealt with.



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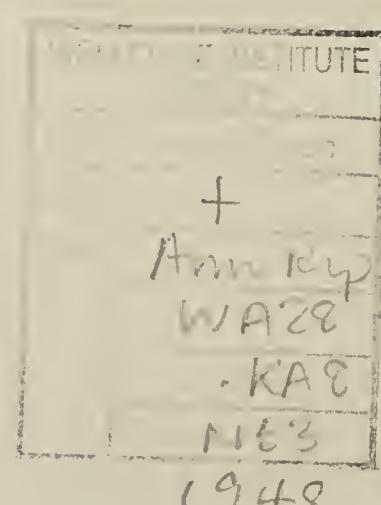
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# Report of the Director-General of Public Health to the Honourable the Minister for Health (The Hon. C. A. Kelly, M.L.A.)

Sir,

I have the honour to present my report on the work of this office for the year ended 31st December, 1948.

## Vital Statistics.

Vital Statistics of New South Wales for the year 1948 have been prepared by the Government Statistician, Mr. S. R. Carver.

The population at the end of 1948 was 3,062,344. During the year, the increase in population by excess of births over deaths was 36,831 and by migration 17,931, making a total increase for the year of 54,762. Total live births numbered 67,234 equivalent to 22.19 per 1,000 of population and this is 7 per cent. above the average of the previous five years. The number of stillbirths registered was 1,326, equal to 0.44 per 1,000 of population. Deaths during the year numbered 30,403, a rate of 10.04 per 1,000 of population. This rate is 5 per cent. above the average of the previous five years. The number of children under 1 year of age who died was 2,037, equal to 30.30 per 1,000 live births. The rate for the Metropolis was considerably lower than that for the remainder of the State. The rate for 1948 is 3 per cent. below the average of the previous five years. In regard to deaths from Cancer, the Government Statistician points out that standardised rates (which adjust for the increasing proportion of aged people in the population) show that within the last few years, Cancer mortality has commenced to decline.

## Infectious Diseases.

*Typhoid Fever.*—In 1948 there were seventeen cases notified with two deaths compared with twenty-eight cases and no deaths in 1947.

*Scarlet Fever.*—1,358 cases were notified with four deaths compared with 1,540 cases and two deaths in 1947.

*Diphtheria.*—The incidence for this disease showed a further decline, 600 cases being notified in 1948 with fifty-one deaths compared with 761 cases and forty-nine deaths in 1947.

*Infantile Paralysis.*—Eighty-seven cases were notified during 1948 being approximately the same incidence as in 1947 (eighty-three cases).

## Tuberculosis Division.

Total notifications, 1,711, of pulmonary tuberculosis showed a decrease of forty cases as compared with 1947. Deaths from all tuberculous disease numbered 815, a rate of 269 per million of population. The respiratory tuberculosis death rate was 11 per cent. below the average of the previous five years.

It was found necessary to close a number of wards in Sanatoria because of difficulty in obtaining suitable nursing and domestic staff. Available beds totalled 1,154. Eight special chest clinics operated during the year and in the Metropolitan clinics there was an increase of 5,043 X-ray examinations compared with 1947. A total of 16,902 X-ray

examinations, representing an increase of over 900 compared with 1947, were completed under the group service conducted by specialist radiologists. The educational activities of the Division were continued by publications, exhibits, lectures broadcasts etc. and the resulting stimulation of public co-operation, is an important development in furthering tuberculosis control.

## Division of Social Hygiene.

The total for notifications received for 1948 was the lowest recorded since the Venereal Diseases Act, 1918, came into force in December, 1920. The decrease was due to a continued decline in the number of cases of gonorrhoea. However, there was an increase in the total syphilis notifications and acute syphilitic infections totalled 618, the highest figure yet recorded since the Act came into force. The incidence of acute syphilis in this State has shown a disturbing increase; in 1944, the incidence was 7.1 per 100,000 of population and in 1948 it was 20.4 per 100,000 of population. Penicillin therapy of acute syphilis by which patients are rapidly rendered non-infectious, may make as big a difference in the control of this disease as it has already done in the control of gonorrhoea. The prophylactic facilities of the Divisional Clinic continued to be used fully.

## Consultative Council for the Physically Handicapped.

This Council has continued to investigate and assist in matters relating to the treatment and after care of poliomyelitis patients, and to arrange for vocational training for other physically handicapped persons. Expenditure in connection with after-care activities amounted to £295 6s. 9d. and expenditure in vocational training to £245 3s. 5d. A hostel for country applicants for vocational training has not yet been acquired.

## Pathological Laboratories.

The Director, in his summarised report for 1948 shows that the total number of general laboratory examinations was approximately the same as for 1947. In the bacteriological examinations of milk samples *Brucella abortus* was detected in forty different samples but no samples were found to contain tubercle bacilli. There was a further decrease in the number of slides submitted for examination for malarial parasites and in each case where it was detected, the parasite was *Plasmodium vivax*. Once again there was increased work in the section of the laboratory dealing with histological examinations. The examination of rats for plague numbered 898.

## Division of Industrial Hygiene.

The Division continued during 1948 its investigations with various aspects of Coal Mining. A number of these were made at the request of the Mines Department and concerned alleged

dusty working places underground. At the request of the Silicosis Committee dust tests were carried out in construction tunnels and shafts in the Ashfield district and at the dam site at Warragamba and the control methods observed appeared to be adequate. Descriptions of investigations of various other dusty trades are embodied in the report. One hundred and eight-four persons suspected of having lead poisoning were examined and twenty-four of these were considered to be suffering from lead poisoning with disability, of these latter thirteen worked in factories manufacturing electric accumulators. Investigations were also made at two factories using beryllium and into various industrial hazards from fumes and gases and a special inquiry was conducted into the use of hydrocyanic acid gas as a fumigant for citrus trees.

#### Division of Maternal and Baby Welfare.

Attendances at prenatal clinics were 1,158 more than in 1947; the Manly, Parramatta, Campsie and Hornsby Clinics all showing an increased number of attendances. The Rockdale Clinic was closed at the end of the year. There has been an extension of the use of physiotherapy in pregnancy and the puerperium with noticeable beneficial effects on mothers and the Departmental film on this is being widely used in the training of medical and physiotherapy students and nurses.

During 1948, seventy-three cases of puerperal infection were notified, of these twenty-five followed confinement (ten in the city and fifteen in the rest of the State).

There are now 269 Baby Health Centres in the State and twelve new buildings were occupied during the year, eight of these replacing existing substandard premises. Pre-school children also attend these Centres. Fourteen Day Nurseries and Nursery Schools and twenty-eight Kindergartens were supervised by Divisional Medical Officers during the year. The general standard of nutrition of the children showed a definite improvement.

#### Chemical Laboratory.

The number of samples examined in this laboratory during the year amounted to 26,433 compared with 28,612 in 1947. Milk samples examined for the purposes of the Pure Food Act, totalled 15,925. Water added to the milk was the most common adulteration found, but of all the milk examined approximately 3 per cent. only contravened the standard.

Samples other than milk submitted in connection with the administration of the Pure Food Act amounted to 7,499, of which 595 were found to be adulterated or falsely described.

Samples submitted for the Public Services of the State (exclusive of those examined for Defence purposes) amounted to 2,992 and these examinations were done for Subsidised Institutions, Government Stores Department, Police and Coronial Authorities and Departmental and Local Authorities.

#### Food Inspection.

The work of the Food Inspection Branch includes the supervision of all places where food or drugs are prepared, stored or exposed for sale, together with the duties required to be carried out in order to secure compliance with the Pure Food Act and Regulations.

During the year it was found necessary to seize and destroy a large quantity of foodstuffs which included 8,447 head of poultry, 53,500 tins, 4,138 bottles and packages and 81 tons of loose food.

During the year action in the public interest was taken in respect of medical treatment by other than qualified persons.

The survey in regard to the bacteriological condition of eating and drinking utensils under the existing cleansing methods is still being carried out.

#### Sanitation Branch.

Routine and general inspections were carried out in the Metropolitan and Country districts and reports and recommendations for necessary action were made. Inspections of cattle slaughtering and abattoir premises were made and reports forwarded to the Department of Agriculture which now controls such premises. Five hundred and sixty-seven inspections and re-inspections of Noxious Trades premises were made, and in a few instances legal proceedings were instituted against the trader.

Five hundred and twenty-four inspections and check surveys were made of land considered unfit for building purposes.

Rodent control was continued and eighty-seven visits were made to Sydney wharves.

#### Private Hospitals.

At the end of the year there were 303 licensed hospitals in New South Wales, having a bed capacity of 3,811. The available beds increased by thirty-seven compared with the previous year, but the total number of licensed hospitals decreased by seven.

Shortage of staff during the year made it impossible to inspect hospitals as frequently as was desired.

Overcrowding has been again a frequent finding and maintenance work in general has been neglected. No prosecutions under the Private Hospitals Act were instituted during the year.

Inspections of Rest and Convalescent Homes were also carried out and appropriate legislation is needed to control these establishments as many of them are sub-standard.

#### Medico-Legal Sections and Hospital Admission Depot.

The Government Medical Officer for Sydney submits a summarised report dealing with the work of his office, including medical examinations for State Government Departments, medical examinations of sick police and police recruits and medico-legal examination in criminal and coroner's cases. A medical officer of the branch attends the Reception House, Darlinghurst, for the certification of the insane.

Two hundred and forty-nine vaccinations against smallpox were performed during 1948.

The Government Medical Officer for Newcastle took up office on 1st November, 1948, and submits a brief report.

#### Health Education.

Some of the activities of the Publicity Branch had unfortunately to be curtailed in 1948 because of a decreased vote and the continuing increase in the costs of production. The Branch has endeavoured to secure as much as possible, free space in newspapers for articles and free time over broadcasting stations for talks. Each week over 300 press articles were forwarded to country and suburban newspapers, and a number of country broadcasting stations receive weekly scripts. Two new publications were produced and six revised publications were issued during 1948.

The theme of the Health Week exhibition in 1948 was the detection and prevention of tuberculosis. A new exhibit in this theme was prepared at a cost of £3,000 and a new departmental film made. The film library was added to during the year and it now has a total of 101 different titles with some extra copies. It is estimated that 53,027 persons viewed departmental films during 1948.

#### Nutrition Section.

The most important advance in nutrition education during the year was the extension of the services of this section to the Department's pre-natal clinics, and it is intended this

service will be extended further next year. Education in nutrition was continued by lectures, newspaper articles and broadcast talks. Dietitians have also visited the Health Districts where they worked under the guidance of Medical Officers of Health.

The Dietitians have reported on the food and kitchen requirements in State Hospitals and Mental Hospitals, Child Welfare homes and the activities of this section in connection with School Canteens had been maintained at the request of the Education Department.

#### School Medical Service.

Medical examination of school children was continued in both metropolitan and country districts. In the metropolitan area 42,551 children were fully examined and 23,195 were reviewed or partially examined—the corresponding figures for the country districts were 41,746 and 1,751 respectively. The services provided by the School Nurses facilitate and are complementary to the work of the Medical Officers. Medical examinations of teachers and student-teachers totalled 2,813. Two thousand five hundred and seventy-two new cases were examined at the four Child Guidance Clinics during the year. The Speech Therapist continued her work in the schools and the Speech Therapy Centre, Blackfriars, 2,029 treatments being given. There were 30,685 cases of measles during the year, causing an average absence per pupil affected of 3.1 weeks. A statistical survey of the incidence of thyroid enlargement in school children throughout New South Wales was undertaken during 1948 for the purpose of revising the goitre map prepared by this service years ago.

#### Division of Dental Services.

This Division was created last year and incorporates two main sections—School Dental Services and Services to State Hospitals and Institutions, including State Penitentiaries. The travelling School Dental Clinics, working in both city and country districts, examined 22,373 children of whom 73.97 per cent. were found to be in need of treatment. Staff was not available to bring into operation plans to appoint full-time dental officers to replace part-time private practitioners at present employed in State hospitals and institutions. A complete survey on the requirements for an adequate dental service for State penitentiaries was made during the year and a report submitted on the accommodation available, the equipment required and its estimated cost.

#### Health Districts.

*Metropolitan Combined Sanitary Districts.*—The Metropolitan Medical Officer of Health reports a continuation of the decline in incidence of diphtheria, 187 cases having been reported compared with 268 in 1947. Councils have now adopted the principle of holding immunization clinics at regular intervals and co-operate with each other in an endeavour to pick up stragglers by staggering the dates of con-

tiguous clinics. Seven cases of typhoid fever occurred with one death. This low incidence in a population of 1½ million in an area where sewerage reticulation has not kept pace with the increase in population speaks well for the efforts of Municipal Health Inspectors in their supervision of the sanitary services. Under the slogan, "Knowledge Defeats Disease," a most successful Health Week was celebrated in the metropolitan area.

*Hunter River Health District.*—The Medical Officer of Health reports that housing was the most important public health problem of the year, and many problems have arisen in Housing Commission Settlements where cottages have been erected without sewerage or drainage on small and low-lying allotments. Newcastle Harbour pollution has given concern and has actively engaged the attention of the different interested authorities. One thousand seven hundred and forty-three children were immunized against diphtheria in campaigns conducted by the local councils in the district.

*South Coast Health District.*—From the 1st July, 1948, nine municipalities and shires were amalgamated into one local authority, the Shire of Shoalhaven, and this change reduced the number of local authorities in this district to twelve. Diphtheria immunization campaigns were conducted by six local authorities during the year. This office is also concerned with the lack of sewerage and drainage facilities for the large number of newly-built houses in the district. The Medical Officer of Health again emphasises the need in his area of a full-time Pure Food Inspector. As a result of inspections and supervision, a noticeable improvement was obtained in the sanitary and general condition of tourist camps in the district.

*Mitchell Health District.*—The Medical Officer of Health reports that there are 1,261 hospital beds available in this district for a population of 114,325. Some of the sewage treatment works in the district are not functioning efficiently, usually due to overloading because of the increased populations of the towns. The housing shortage is also an acute problem. Numerous matters under the Public Health Act, Pure Food Act, Local Government Act and the Noxious Trades Act have been dealt with in co-operation with the local authorities.

*Richmond-Tweed Health District.*—This district has approximately one hospital bed available for each 116 people. The sanitation of this district was in many respects unsatisfactory, but this office, with the co-operation of the local authorities, has already effected considerable improvement. Public health problems occupying the attention of the Medical Officer of Health include particularly hookworm in the aborigines and tuberculosis in dairy herds.

*Broken Hill and District.*—An increase of 250 in population is reported for the year. There was a remarkably low incidence of notifiable infectious diseases. Four cases of scarlet fever being reported and none of any of the other infectious diseases. There was a decrease of 269 compared with last year in the attendances at the Anti-tuberculosis Clinic.

E. SYDNEY MORRIS,  
Director-General of Public Health.

### VITAL STATISTICS OF NEW SOUTH WALES FOR THE YEAR 1948.

(Prepared by the Government Statistician, Mr. S. R. CARVER.)

#### Population.

The population at the end of 1948 was 3,062,344, of whom 1,531,990 were males and 1,530,354 females. During the year the increase in population by excess of births over deaths was 36,831 and by migration 17,931, making a total increase for the year of 54,762. The mean population for the year 1948 was 3,029,573.

#### Live Births.

The total number of live births was 67,234, equivalent to 22.19 per 1,000 of population, which is 7 per cent. above the average of the previous five years. Of this number, 34,538 were males and 32,696 were females, the proportion being 106 males to 100 females.

Dividing the State into the Metropolis and the Remainder of the State, there were 30,047 births in the former and 37,187 in the latter, corresponding to rates of 20.01 and 24.34 respectively.

#### Stillbirths.

The number of stillbirths registered was 1,326 (737 males and 589 females), which is 1.93 per cent. of all births, live and still, and equal to 0.44 per 1,000 of population. In the Metropolis there were 558 stillbirths and in the Remainder of the State 768, representing 1.82 and 2.02 per cent. of all births, live and still, in the respective divisions.

#### Deaths.

The deaths during the year numbered 30,403, equivalent to a rate of 10.04 per 1,000 of population. This rate is 5 per cent. above the average of the previous five years.

The total includes 17,085 males and 13,318 females, equivalent to a rate of 11.27 and 8.80 respectively per 1,000 of population. The rate in the Metropolis was 10.90 per 1,000, and in the Remainder of the State 9.18.

Of the 30,403 people who died during the year, 2,519 were under 5 years of age; 11,305 were aged 5 to 64 years, and 16,579 were 65 years and over. The rates per 1,000 of population in the main groups under and over 5 years were 8.16 and 10.25 as compared with 9.58 and 9.56, the averages of the previous five years.

#### Infantile Mortality.

The number of children under 1 years of age who died was 2,037, equal to 30.30 per 1,000 live births. To this total the Metropolis contributed 810 or 26.96 per 1,000 live births and the Remainder of the State 1,227 or 33.00 per 1,000 live births. The rate for 1948 is 3 per cent. below the average of the

previous five years. Of the deaths under 1 years of age, 1,236 or 61 per cent. occurred under 1 week; 1,434 or 70 per cent. under 1 month; and 1,600 or 79 per cent. under 3 months.

#### Causes of Death.

The most important causes of deaths during the year are shown in the following statement which, for purposes of comparison, also gives the average number of deaths during the preceding five years, due allowance having been made for increase in population. The arrangement of the causes of death is based upon the 1938 revision of the International List of Causes of Death as adapted for use in New South Wales from 1st January, 1940.

Causes of Death .	Number 1948.	Average Annual Number 1943-47. (a)	Increase (+) or Decreases (-) in 1948. (b)
Typhoid Fever (including Paratyphoid) .....	2	3	per cent. — 31
Cerebrospinal (meningococcal) Meningitis .....	29	48	— 39
Scarlet Fever .....	4	7	— 46
Whooping Cough .....	27	50	— 46
Diphtheria .....	51	74	— 31
Erysipelas .....	...	4	— 100
Tetanus .....	32	21	+ 51
Tuberculosis of the Respiratory System .....	771	862	— 11
Tuberculosis of Meninges and Central Nervous System .....	15	25	— 40
Other Tuberculous Diseases .....	29	44	— 34
Dysentery .....	4	12	— 66
Syphilis .....	142	132	+ 8
Influenza with respiratory complications specified .....	101	52	+ 94
Influenza without respiratory complications specified .....	74	43	+ 72
Measles .....	49	14	+ 258
Acute Poliomyelitis and Acute Polienccephalitis (notifiable and non-notifiable forms) .....	6	25	— 76
Acute Infectious Encephalitis (lethargic or epidemic) (notifiable and non-notifiable forms) .....	6	10	— 37
Other Infectious and Parasitic Diseases .....	96	92	+ 5
Cancer .....	3,674	3,532	+ 4
Diabetes Mellitus .....	527	551	— 4
Other General Diseases .....	400	411	— 3
Vitamin-Deficiency Diseases .....	4	1	+ 285
Diseases of the Blood .....	272	237	+ 15
Chronic Poisoning and Intoxication .....	79	42	+ 87
Encephalitis and Meningitis (non-epidemic) .....	88	106	— 17
Cerebral Haemorrhage .....	2,221	2,073	+ 7
Cerebral Embolism, Thrombosis, Softening and Hemiplegia .....	1,120	857	+ 31
Other Intracranial Effusions .....	5	11	— 54
Infantile Convulsions .....	10	15	— 32
Other Diseases of the Nervous System .....	334	385	— 13
Diseases of the Heart .....	9,950	9,254	+ 8
Arteriosclerosis and Other Diseases of Arteries .....	602	556	+ 8
Other Diseases of the Circulatory System .....	137	100	+ 36
Bronchitis .....	248	239	+ 4
Pneumonia .....	1,502	1,308	+ 15
Other Diseases of the Respiratory System .....	380	318	+ 19
Diseases of the Stomach .....	177	158	+ 12
Diarrhoea and Enteritis—Under 2 years .....	122	102	+ 20
Diarrhoea and Enteritis—2 years and over .....	75	98	— 24
Appendicitis .....	77	141	— 45
Hernia, Intestinal Obstruction .....	256	265	— 4
Cirrhosis of the Liver .....	141	100	+ 41
Peritonitis (without specified cause) .....	30	23	+ 33
Other Diseases of the Digestive System .....	369	335	+ 10
Nephritis .....	1,199	1,258	— 5
Other Diseases of the Genito-Urinary System .....	320	365	— 12
Criminal Abortion .....	11	22	— 49
Puerperal Septicaemia and Post-abortive Sepsis .....	3	22	— 86
Puerperal Thrombophlebitis, Embolism and Sudden Death (Sepsis) .....	13	16	— 19
Other Puerperal Diseases .....	65	99	— 34
Congenital Malformations .....	339	346	— 2
Congenital Debility .....	54	65	— 17
Premature Birth .....	632	669	— 6
Other Diseases peculiar to the First Year of Life .....	455	455	...
Senility .....	1,027	1,066	— 4
Suicide .....	320	272	+ 18
Accident .....	1,532	1,377	+ 11
Other Violence .....	50	44	+ 13
All Other Causes .....	145	161	— 10
Total .....	30,403	28,973	+ 5

(a) Adjusted to the mean population of 1948, viz., 3,029,573.

(b) The percentage increase or decrease is calculated from the precise average for 1943-47, and not from the adjusted number shown here. When the number of deaths is small a difference in the percentages on the two bases is apparent.

### Infective and Parasitic Diseases (Communicable Diseases).

The deaths from infective and parasitic diseases (which include tuberculosis) numbered 1,438 as compared with an adjusted average of 1,518 during the previous five years, being a decrease of 5 per cent. During 1948, deaths from typhoid fever, cerebrospinal meningitis, scarlet fever, whooping cough, diphtheria, erysipelas and dysentery showed a marked decline, whilst deaths from tetanus, influenza and measles rose sharply, measles showing an increase of 258 per cent., on the average of the preceding five years.

Tuberculosis caused 815 deaths in 1948, a rate of 269 per million of population. Of this total tuberculosis of the respiratory system was the cause of 771 deaths, equal to a rate of 254 per million of population and being 11 per cent. below the average of the previous five years. The deaths of males numbered 539 and of females 232 and the rates per million of each sex were 356 and 153 respectively. Deaths from all other tuberculous diseases numbered 44 and the mortality rate was 15 per million, which was 36 per cent. below the average of the previous five years.

### Cancer.

The deaths from cancer numbered 3,674, equal to a rate of 1,213 per million of population, and 4 per cent. above the average rate of the preceding quinquennial period. The deaths of males numbered 1,882 and of females 1,792, the rates for each sex being 1,241 and 1,184 per million, respectively. The crude death rate for this disease is misleading as it reflects the increase in the proportion of older people in the population rather than the true changes in the cancer death rate. Standardised rates (which adjust for the increasing proportion of aged people) show that within the last few years cancer mortality has commenced to decline.

### Intra-cranial Lesions of Vascular Origin.

In 1948 intracranial lesions caused 3,346 deaths, equal to 1,104 per million living which is almost 14 per cent. above the average of the previous five years. This total comprised cerebral haemorrhage 2,221, cerebral embolism and thrombosis 1,014, softening of the brain 36, hemiplegia and other paralysis 70 and other intracranial effusions 5.

Of the total, 1,501 were males and 1,845 were females, corresponding respectively to rates of 990 and 1,219 per million of population.

### Diseases of the Heart.

Diseases of the heart were the cause of 9,950 deaths, the rate being 3,284 per million of population. The rate for deaths from heart disease in 1948 was 8 per cent. above the average rate of the preceding five years. Of the total deaths, 5,861 were of males and 4,089 females, the corresponding rates per million of each sex being 3,866 and 2,701. It is difficult to arrive at the true increase in these deaths as distinct from the apparent increase disclosed by crude death rates over the last forty or fifty years. Even though the effects of the "ageing" of the population were removed by standardising the rates on a fixed age distribution of population, the true position would be obscured by the effects of the greater attention given to pathological diagnosis over the last thirty or forty years.

### Bronchitis and Pneumonia.

Bronchitis, with 248 deaths, equal to a rate of 82 per million of population, showed an increase of 4 per cent. and pneumonia with 1,502 deaths, or 496 per million, an increase of 15 per cent. as compared with the experience of the previous five years.

Of the deaths from bronchitis, 157 were of males and 91 of females, or 104 and 60 per million of each sex respectively. Of the persons who died from pneumonia, 830 were males and 672 were females, and the respective rates were 548 and 444 per million of each sex.

### Nephritis.

During 1948 there were 1,519 deaths due to diseases of the genito-urinary system, of which 1,199 were caused by nephritis (acute and chronic). The mortality rate for nephritis was 396 per million of population; for males 439 per million and for females 353 per million. In 1948 the rate was 5 per cent. below the average of the previous five years.

### Mortality of Infants.

The principal causes of deaths of children under one year of age were prematurity, 632; congenital malformations, 278; injury at birth, 261; other developmental diseases, 248; pneumonia, 227; diarrhoea and enteritis, 103; infective and parasitic diseases, 79 (including whooping cough 20, cerebrospinal meningococcal meningitis 10, influenza 17, tuberculosis 3, measles 11 and diphtheria 11); encephalitis and meningitis, 19; convulsions, 7; and bronchitis, 7.

The following statement shows the deaths of children under one year of age per 1,000 live births, classified in the principal disease groups, during 1948 in comparison with the preceding five years:—

Cause of Death.	Males.		Females.		Total.	
	1948.	1943-47.	1948.	1943-47.	1948.	1943-47.
Tuberculosis .....	.09	.14	...	.12	.04	.13
Syphilis .....	...	.06	.03	.04	.02	.05
Other Infective or Parasitic Diseases .....	1.13	1.36	1.10	1.17	1.12	1.27
Meningitis .....	.26	.49	.31	.38	.28	.44
Convulsions .....	.06	.17	.15	.10	.10	.13
Bronchitis .....	.06	.19	.15	.12	.10	.16
Pneumonia .....	3.62	3.45	3.12	2.80	3.38	3.13
Diarrhoea and Enteritis .....	1.94	1.22	1.10	1.01	1.53	1.12
Malformations .....	4.57	4.88	3.67	4.05	4.14	4.48
Congenital Debility .....	.95	1.04	.64	.94	.80	.99
Premature Birth .....	10.89	11.27	7.83	9.13	9.40	10.23
Injury at Birth .....	4.69	4.49	3.03	2.92	3.88	3.72
Other Diseases peculiar to First Year of Life .....	3.56	3.81	2.17	2.62	2.89	3.23
Other Causes .....	2.95	2.54	2.27	2.05	2.62	2.30
All Causes .....	34.77	35.11	25.57	27.45	30.30	31.38

## SECTION 1.

## A.—COMMUNICABLE DISEASES, 1948.

NOTIFIABLE INFECTIOUS DISEASES RECORDED IN NEW SOUTH WALES DURING THE YEAR ENDED  
31st DECEMBER, 1948.

## Public Health Acts, 1902-1937.

The Public Health Act, 1902, provides that the Governor may, by proclamation in the Government Gazette, declare that any disease therein named is an infectious disease.

Notifiable from—	Cases and Deaths Notified.						
	1946.		1947.		1948.		
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
Typhoid Fever and Paratyphoid .....	1st January, 1898 .....	25	3	28	...	17	2
Scarlet Fever .....	” .....	3,090	4	1,540	2	1,358	4
Diphtheria or Membranous Croup.....	” .....	1,279	57	761	49	600	51
Bubonic Plague .....	23rd January, 1900.....	...	...	...	...	...	...
Infantile Paralysis (including any form of Acute Anterior Poliomyelitis, Polioencephalitis or Polio-myelonecephalitis).	1st February, 1912.....	656*	52	82*	8	87*	5
Epidemic Cerebro-spinal Fever (Meningococcal Meningitis).	11th October, 1915 .....	89	29	65	23	82	29
Encephalitis Lethargica .....	1st April, 1926 .....	3	1	2	2	...	1
Cholera .....	12th August, 1927 .....	...	...	...	...	...	...
Typhus Fever .....	” .....	43	2	24	...	12	1
Yellow Fever .....	” .....	...	...	...	...	...	...
Puerperal Infection .....	16th August, 1929 .....	185	10	85	12	72	22
Undulant Fever .....	13th August, 1937 .....	...	...	1	...	...	...
Leprosy .....	25th February, 1938 .....	3	2	...	...	3	...
Tuberculosis (all forms) .....	14th May, 1945 .....	1,671	818	1,751	816	1,711	815
Smallpox .....	17th September, 1948...	...	...	...	...	...	...
	Total .....	7,044	978	4,340	912	3,942	930
	Population at 31st December .....	2,945,220		2,985,073		3,062,344	

\* Compiled as from Receipt of Notification.

## Public Health Act, 1902.

A total of 3,942 cases of infectious disease was notified under the Public Health Act, 1902, during 1948 or 398 less cases than in 1947. The number of cases notified from the 147 municipalities and 134 shires and the unincorporated portion of the Western Division; the deaths due to these infections; the age and sex of the patients; and the seasonal incidence of the various diseases are shown in appended Table I-IV (pp. 12-15). As indicated below, the venereal diseases are notifiable under the Venereal Diseases Act, 1918.

## Public Health (Amendment) Act, 1915.

*Pulmonary Tuberculosis.*—A survey by the Director of the Tuberculosis Division is on page 63.

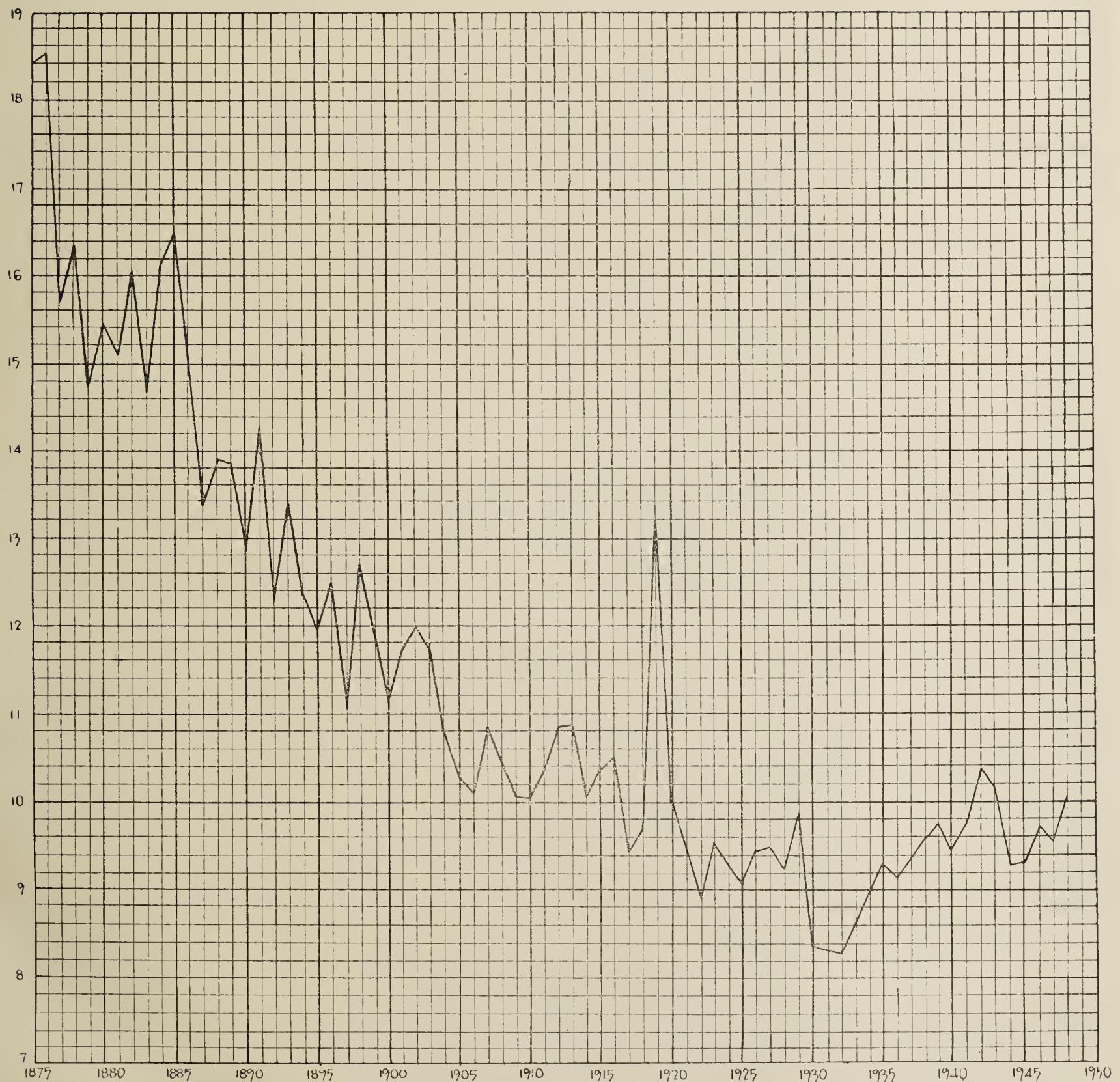
## Venereal Diseases Act, 1918.

Cases of venereal disease notified in 1948, numbered 4,199, a decrease of 812 cases on the number (5,011) received in 1947. The Report of the Director of the Division is on page 31.

## ANNUAL DEATH RATE

Per 1,000 of the Population in New South Wales

1875-1948



Graph I

TABLE I.—Notifiable Infectious Diseases—Cases and Deaths, each Local Area in the Metropolitan Combined Sanitary Districts—1948.

Municipality or Shire.	Estimated Mean Population.	Typhoid and Paratyphoid Fever.		Scarlet Fever.		Diphtheria.		Infantile Paralysis.		Cerebro-spinal Meningitis.		Typhus Fever.		Puerperal Infection.		Tuberculosis (All Forms).	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
MUNICIPALITIES.																	
Sydney, City of .....	95,050	...	...	29	...	5	2	5	...	3	1	...	...	14	3	...	69
Alexandria .....	8,060	...	...	3	...	1	...	1	...	2	...	...	...	1	...	...	9
Annandale .....	12,290	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	7
Ashfield .....	43,810	...	...	17	...	3	...	1	...	...	...	...	...	...	...	...	15
Auburn .....	22,450	...	...	14	...	2	...	...	...	...	...	...	...	2	1	...	4
Balmain .....	28,200	1	...	8	...	...	...	1	...	...	1	...	...	2	...	...	13
Bankstown .....	47,600	...	...	31	...	16	2	1	...	...	...	...	...	3	...	...	13
Bexley .....	27,670	...	...	25	...	4	...	...	...	1	...	...	...	...	...	...	6
Botany .....	9,880	...	...	12	...	...	...	...	...	...	1	...	...	...	1	...	4
Burwood .....	21,270	...	...	15	...	...	...	...	...	2	1	...	...	...	...	...	2
Cabramatta and Canley Vale .....	11,560	...	...	4	...	5	...	...	...	2	2	...	...	1	1	...	7
Canterbury .....	102,530	...	...	70	...	23	...	4	...	1	...	1	...	2	1	...	26
Concord .....	29,970	1	...	17	...	...	...	...	...	2	...	...	...	...	...	...	5
Darlington .....	3,040	...	...	3	...	...	...	1	...	...	...	...	...	...	...	...	3
Drummoyne .....	33,120	...	...	18	...	3	...	1	...	...	...	...	...	...	...	...	12
Dundas .....	7,870	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	3
Eastwood .....	4,320	...	...	...	...	2	...	...	...	...	...	...	...	...	...	...	2
Enfield .....	17,550	...	...	4	...	3	...	2	...	1	...	...	...	...	...	...	3
Ermington and Rydalmer .....	3,740	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	1
Erskineville .....	6,880	...	...	4	...	2	...	...	...	1	...	...	...	...	...	...	9
Fairfield .....	17,280	...	...	2	...	1	...	...	...	...	...	...	...	...	...	...	5
Glebe .....	20,470	...	...	4	...	...	...	1	...	...	...	...	...	...	...	...	8
Granville .....	27,980	...	...	18	...	11	2	1	...	1	1	...	2	...	...	5	
Holroyd .....	25,580	...	...	9	...	3	...	2	...	1	...	1	...	...	...	...	9
Hunters Hill .....	11,610	...	...	5	...	...	...	...	...	2	...	...	...	...	...	...	3
Hurstville .....	35,580	...	...	21	...	4	...	5	...	1	...	...	1	1	...	...	10
Ingleburn .....	3,410	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	2
Kogarah .....	40,380	...	...	23	...	7	1	2	...	1	...	...	...	...	...	...	12
*Ku-ring-gai .....	40,870	...	...	35	...	3	...	1	...	...	...	...	...	...	...	...	17
Lane Cove .....	20,460	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	3
Leichhardt .....	29,120	...	...	9	...	5	...	1	...	2	...	...	...	...	...	...	9
Lidcombe .....	20,650	...	...	11	...	...	...	...	...	...	...	...	...	1	...	...	17
Liverpool .....	13,100	...	...	9	...	5	2	1	...	...	...	...	...	3	...	...	7
Manly .....	33,950	...	1	15	...	6	...	2	...	...	...	...	...	1	...	...	11
Marrickville .....	45,240	...	...	27	...	3	...	...	...	1	1	...	5	...	...	...	20
Mascot .....	18,260	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	5
Mosman .....	27,150	1	...	9	...	...	...	...	...	1	...	...	1	...	...	...	6
Newtown .....	24,920	1	...	10	...	9	...	2	...	3	1	...	1	...	...	...	7
North Sydney .....	60,270	...	...	20	...	2	1	...	...	1	1	1	...	...	...	...	17
Paddington .....	24,590	...	...	12	...	2	1	1	...	1	...	...	5	...	...	...	15
Parramatta .....	21,330	...	...	12	...	...	...	1	...	...	1	...	...	...	...	...	11
Petersham .....	28,520	...	...	17	...	3	...	1	...	2	1	...	1	...	...	...	15
Randwick .....	102,010	...	...	66	...	17	2	3	...	4	1	...	...	1	...	...	45
Redfern .....	18,550	...	...	10	...	6	1	3	...	1	...	...	4	...	...	...	13
Rockdale .....	48,650	...	...	19	...	10	1	2	...	2	...	...	...	1	...	...	8
Ryde .....	38,170	...	...	14	...	3	...	1	...	...	...	...	...	...	...	...	8
St. Peters .....	12,000	...	...	6	...	3	...	...	...	...	...	...	...	...	...	...	6
Strathfield .....	19,580	1	...	13	...	...	...	...	...	...	...	...	...	...	...	...	8
Vaucluse .....	9,060	1	...	4	...	...	...	...	...	...	...	...	...	...	...	...	3
Waterloo .....	11,220	...	...	6	...	3	1	...	...	1	...	...	...	...	...	...	3
Waverley .....	74,940	...	...	25	...	1	...	3	...	4	1	...	5	1	...	...	16
Willoughby .....	52,770	...	...	23	...	1	...	...	...	...	...	...	1	1	...	...	6
Woollahra .....	44,650	...	...	21	...	2	...	2	1	2	1	...	1	...	...	...	12
SHIRES AND PORT JACKSON.																	
Hornsby .....	32,450	...	...	29	...	7	1	2	...	...	...	...	1	...	...	...	7
Warringah .....	35,230	1	...	10	...	1	...	2	...	1	...	...	...	...	...	...	4
Harbour of Port Jackson .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total .....	1,626,860	7	1	805	1	187	17	56	1	47	15	3	1	56	13	...	566

\* Undulant Fever—Ku-ring-gai Municipality, 1 case.

TABLE II.—Notifiable Infectious Diseases—Cases and Deaths, each Local Area in the Hunter River Combined Sanitary District—1948.

Municipality or Shire.	Estimated Mean Population.	Typhoid and Paratyphoid Fever.		Scarlet Fever.		Diphtheria.		Infantile Paralysis.		Cerebro-spinal Meningitis.		Typhus Fever.		Puerperal Infection.		Tuberculosis (All Forms).	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
MUNICIPALITIES.																	
Newcastle .....	128,260	...	...	71	...	49	6	2	...	...	...	...	...	1	...	...	27
Cessnock .....	13,110	...	...	1	...	13	...	1	...	...	...	1	...	...	1	...	2
Maitland .....	19,450	...	...	10	...	14	...	...	...	1	...	1	...	1	...	...	2
Singleton .....	3,970	...	...	11	...	1	...	...	...	...	...	...	...	...	...	...	1
SHIRES AND PORT HUNTER.																	
Kearsley .....	26,090	...	...	23	...	4	...	1	...	2	...	...	...	...	...	...	2
Lake Macquarie .....	43,710	...	...	37	1	10	1	2	1	...	...	...	...	...	...	...	18
Lower Hunter .....	6,310	...	...	2	1	12	...	...	...	...	...	...	...	...	...	...	...
Port Stephens .....	6,000	...	...	3	...	15	2	...	...	...	...	...	...	...	...	...	2
Port Hunter .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total .....	246,900	...	...	158	2	118	9	6	1	3	...	2	...	2	1	...	54

TABLE III.—Notifiable Infectious Diseases—Cases and Deaths, each Local Area in the South Coast Health District—1948.

Municipality or Shire.	Estimated Mean Population.	Typhoid and Paratyphoid Fever.		Scarlet Fever.		Diphtheria.		Infantile Paralysis.		Cerebro-spinal Meningitis.		Puerperal Infection.		Tuberculosis (All Forms).		
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	
MUNICIPALITIES.																
Bowral .....	3,700	...	...	1	...	...	...	1	...	...	...	...	...	...	...	1
Camden .....	3,000	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gerringong .....	900	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Jamberoo .....	940	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Kiama .....	2,300	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Shellharbour .....	3,310	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Wollongong, Greater ...	65,160	...	...	16	...	16	5	1	...	3	1	...	2	...	...	17
SHIRES.																
Nattai .....	5,500	...	...	2	...	...	...	...	...	...	...	...	...	...	...	3
Nepean .....	4,510	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Shoalhaven* .....	13,040	...	...	9	...	2	2	...	...	...	...	...	...	...	...	...
Wingecarribee .....	7,360	...	...	6	...	...	...	...	...	1	...	...	...	...	...	2
Wollondilly .....	8,030	...	...	6	...	3	...	...	...	2	1	...	...	...	...	...
Total .....	117,750	...	...	40	...	22	7	2	...	6	2	...	2	...	...	27

\* On 1st July, 1948, the municipalities of Berry, Broughton Vale, Nowra, Shoalhaven South, and Ulladulla and the shires of Cambewarra and Clyde were amalgamated to form the shire of Shoalhaven. Figures are shown for the full year on the new basis.

CANCER, TUBERCULOSIS AND HEART DISEASE

Annual Death Rate per 100,000 of Population in New South Wales, 1875-1948

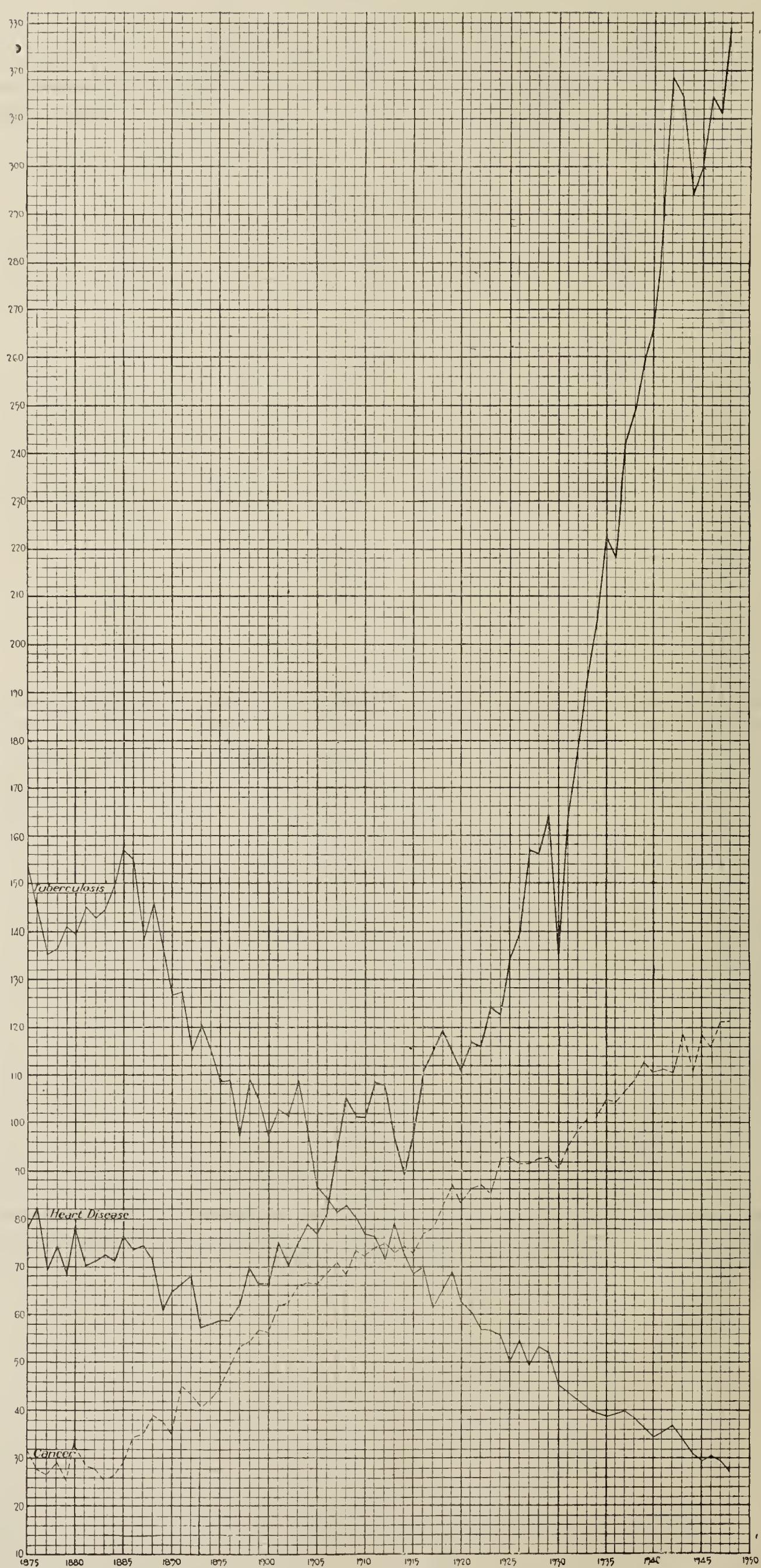


TABLE IV.—Notifiable Infectious Diseases, Cases and Deaths, Each Local Area in the Richmond-Tweed Health District—1948.

Municipality or Shire.	Estimated Mean Population	Typhoid and Paratyphoid Fever.		Scarlet Fever.		Diphtheria.		Cerebro-spinal Meningitis.		Typhus Fever.		Puerperal Infection.		Tuberculosis (All Forms).		
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	
<b>MUNICIPALITIES.</b>																
Ballina .....	3,230	...	...	...	...	3	...	...	...	...	...	...	...	...	...	1
Casino .....	6,820	...	...	...	...	6	2	...	...	...	...	...	...	...	...	...
Grafton .....	8,420	...	...	...	...	6	...	...	1	...	...	...	...	...	...	2
Grafton South .....	3,840	...	...	1	...	3	...	...	...	...	...	...	...	...	...	2
Lismore* .....	15,440	3	...	3	...	5	...	...	...	1	...	...	...	...	...	1
Maclean .....	1,700	...	...	2	...	1	...	...	...	...	...	...	...	...	...	...
Mullumbimby .....	1,640	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...
Ulmarra .....	1,640	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
<b>SHIRES.</b>																
Byron .....	8,890	...	...	1	...	5	...	...	...	...	...	...	1	...	...	1
Copmanhurst .....	2,610	...	...	...	...	4	...	...	...	...	...	...	...	...	...	...
Gundurimba .....	3,930	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Harwood .....	4,690	...	...	3	...	1	...	...	...	...	...	...	...	...	...	2
Kyogle .....	11,530	...	...	2	...	12	...	...	...	3	...	1	...	...	...	1
Terania .....	7,010	...	...	...	...	1	...	...	...	2	...	1	...	...	...	1
Tintenbar .....	4,780	...	...	...	...	1	...	...	...	...	...	1	...	...	...	...
Tomki .....	3,660	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tweed .....	19,610	...	...	12	...	12	...	3	1	...	...	...	...	...	...	...
Woodburn .....	4,350	...	...	1	...	10	...	...	...	...	...	...	...	...	...	...
Total .....	113,790	3	...	25	...	75	2	3	2	6	...	3	1	...	11	

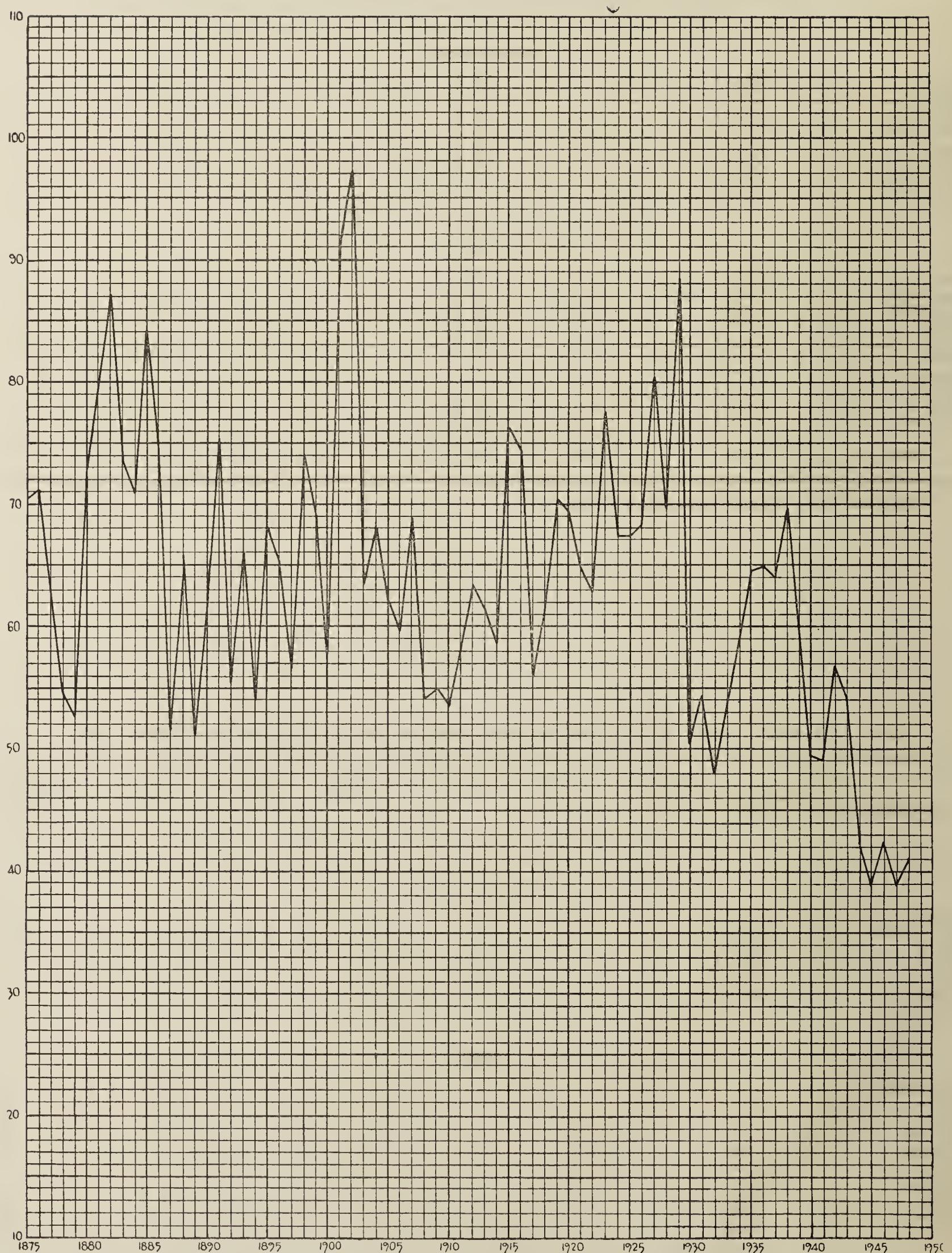
\* Undulant Fever—Lismore Municipality, 1 case.

TABLE V.—Notifiable Infectious Diseases, Cases and Deaths, each Local Area in the Mitchell Health District—1948.

Municipality or Shire.	Estimated Mean Population	Typhoid and Paratyphoid Fever.		Scarlet Fever.		Diphtheria.		Infantile Paralysis.		Cerebro-spinal Meningitis.		Puerperal Infection.		Tuberculosis (All Forms).		
		C.	D.	C.	D.	C.	D.	C.	L.	C.	D.	C.	D.	C.	D.	
<b>MUNICIPALITIES.</b>																
Bathurst .....	11,930	...	...	3	...	...	...	...	...	...	...	...	...	...	...	3
Blue Mountains .....	21,400	...	...	6	...	2	...	...	...	2	1	...	...	...	...	10
Lithgow .....	14,550	...	...	7	...	9	...	...	...	2	...	...	...	...	...	1
Molong .....	1,670	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mudgee .....	4,190	...	...	2	...	6	...	1	...	...	2	1	...	...	...	2
Orange .....	13,870	...	...	3	...	1	...	2	...	1	...	...	...	...	...	2
<b>SHIRES.</b>																
Abercrombie .....	3,910	...	...	...	...	1	...	...	...	...	...	1	1	...	...	2
Amaroo .....	2,240	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Blaxland .....	9,340	...	...	4	...	...	...	...	...	...	...	...	...	...	...	1
Canobolas .....	7,570	...	...	1	...	...	...	...	2	...	...	...	...	...	...	1
Cudgegong .....	4,230	...	...	5	...	...	...	...	...	...	...	...	...	...	...	2
Gulgong .....	3,320	...	...	...	1	1	...	...	...	...	...	...	...	...	...	1
Lyndhurst .....	6,090	...	...	4	1	...	...	2	...	...	...	...	...	...	...	...
Oberon .....	3,240	...	...	7	...	...	...	...	...	...	...	1	...	...	...	...
Rylstone .....	4,360	...	...	...	...	1	...	...	...	1	1	...	...	...	...	2
Turon .....	3,670	1	...	2	...	...	...	...	...	...	...	...	...	...	...	1
Total .....	115,580	1	...	44	1	21	1	7	...	6	2	4	2	...	29	

## PNEUMONIA

Annual Death Rate per 100,000 of Population in New South Wales, 1875-1948



Graph 3

## INFLUENZA

Annual Death Rate per 100,000 of Population in New South Wales, 1875-1948

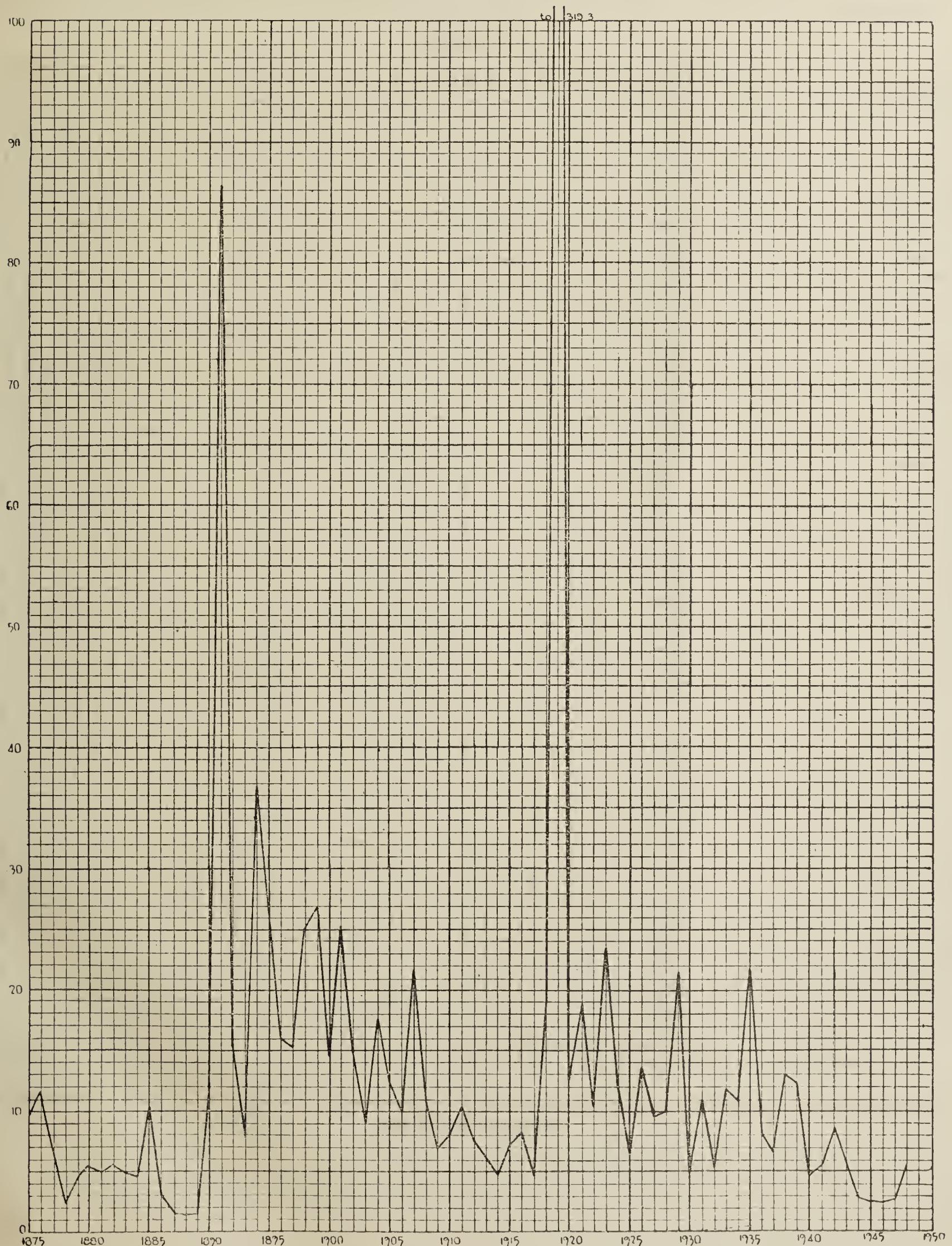


TABLE VI.—Notifiable Infectious Diseases—Cases and Deaths, Each Local Area in Remainder of State—1948.

Municipality.	Estimated Mean Popula- tion.	Typhoid and Para- typhoid Fever.		Scarlet Fever.		Diph- theria.		Infantile Paralysis.		Cerebro- spinal Menin- gitis.		Encepha- litis Lethar- gica.		Typhus Fever.		Puerperal Infection.		Tuber- culosis (All Forms).		
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	
MUNICIPALITIES.																				
Albury .....	14,580	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Armidale .....	7,860	...	...	11	...	3	...	3	...	...	...	...	...	...	...	...	...	...	...	...
Balranald .....	1,250	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Barraba .....	1,460	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bega .....	2,920	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bombala .....	1,130	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Bourke .....	2,050	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Brewarrina .....	840	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Broken Hill .....	27,740	...	...	6	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Campbelltown .....	3,890	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Castlereagh .....	1,330	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cobar .....	2,050	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Condobolin .....	2,630	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cooma .....	2,280	...	...	3	...	...	...	...	...	...	...	...	2	...	...	...	...	...	...	...
Coonamble .....	2,590	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	2
Cootamundra .....	5,310	...	...	5	...	6	1	1	...	...	...	...	...	...	...	...	...	...	...	...
Corowa .....	2,770	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cowra .....	5,500	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...
Deniliquin .....	3,710	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Dubbo .....	9,690	...	...	...	...	5	...	...	...	...	...	...	1	...	...	...	...	...	...	2
Dungog .....	2,070	...	...	9	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Forbes .....	6,030	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Glen Innes .....	5,480	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Goulburn .....	16,180	...	...	6	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Grenfell .....	2,430	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Gunnedah .....	4,360	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Hay .....	2,970	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Inverell .....	6,570	...	...	3	...	1	...	...	...	...	...	...	...	...	...	...	...	...	2	...
Junee .....	4,030	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Kempsey .....	6,430	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Manilla .....	1,810	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Moama .....	660	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Moree .....	5,150	...	...	4	...	6	...	...	...	...	...	...	1	1	...	...	...	...	...	2
Murrumburrah .....	2,610	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Muswellbrook .....	3,980	...	...	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Narrabri .....	3,360	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Narrandera .....	4,230	...	...	2	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	2
Narromine .....	1,820	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Nyngan .....	1,840	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...
Parkes .....	6,990	1	...	2	...	6	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Peak Hill .....	1,140	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Penrith .....	5,100	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Port Macquarie .....	2,980	...	...	2	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Queanbeyan .....	5,080	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...
Quirindi .....	2,650	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Richmond .....	3,530	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scone .....	2,300	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
St. Mary's .....	5,740	...	...	3	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	1
Tamworth .....	12,230	...	...	6	...	2	...	1	...	...	...	...	...	...	...	...	...	...	...	1
Taree .....	6,210	...	...	1	...	8	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Temora .....	4,200	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Tenterfield .....	3,060	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Wagga Wagga .....	15,580	...	...	8	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	3
Walcha .....	1,550	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Warren .....	1,770	...	...	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...
Wellington .....	4,750	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Wentworth .....	2,580	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wilcannia .....	810	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Windsor .....	4,020	...	...	...	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	1
Wingham .....	2,130	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Yass .....	3,290	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Young .....	4,670	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Total, Municipalities* .....	285,950	1	...	115	...	57	1	8	...	5	3	...	...	...	...	...	4	1	...	59

\* Including Broken Hill

TABLE VI.—Notifiable Infectious Diseases—Cases and Deaths, Each Local Area in Remainder of State—1948—continued.

\* On 1st October, 1948, the Municipality of Murrurundi and the Shire of Warrah were amalgamated to form the Shire of Murrurundi. Figures are shown for the full year on the new basis.

TABLE VI.—Notifiable Infectious Diseases—Cases and Deaths, Each Local Area in Remainder of State—1948—*continued*.

Shire.	Estimated Mean Population.	Typhoid and Para-typhoid Fever.		Scarlet Fever.		Diphtheria.		Infantile Paralysis.		Cerebro-spinal Menitis.		Encephalitis Lethargica.		Typhus Fever.		Puerperal Infection.		Tuberculosis (All Forms).		
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	
SHIRES— <i>continued</i> .																				
Namoi .....	7,960	...	...	2	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Narraburra .....	3,150	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nundle .....	1,380	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nymboida .....	2,300	...	...	...	...	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Orara .....	1,540	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Patrick Plains .....	5,360	...	...	3	...	...	...	1	...	...	...	...	1	...	...	...	...	...	...	1
Peel .....	6,080	...	...	1	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Severn .....	4,890	...	...	2	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Snowy River† .....	3,290	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Stroud .....	6,600	...	...	7	...	3	1	...	...	1	...	...	...	...	...	...	...	...	...	1
Sutherland .....	31,610	...	...	23	...	3	...	...	...	...	...	...	...	...	...	...	...	2	...	9
Talbragar .....	3,250	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tallaganda .....	2,850	...	...	3	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tamarang .....	2,400	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...
Tenterfield .....	4,480	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Timbrebongie .....	3,220	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tumbarumba .....	3,240	...	...	7	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Tumut .....	8,490	...	...	6	...	4	3	...	...	...	...	...	...	...	...	...	...	1	...	1
Upper Hunter .....	4,870	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Uralla* .....	4,570	...	...	6	...	3	...	3	...	...	...	...	...	...	...	...	...	...	...	1
Urana .....	2,400	...	...	...	...	1	...	1	...	1	...	...	...	...	...	...	...	...	...	1
Wade .....	11,160	...	...	7	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	2
Wakool .....	3,380	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Walgett .....	3,390	...	...	...	...	5	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wallarobba .....	4,230	...	...	1	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Waradgery .....	590	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Waugoola .....	4,430	...	...	2	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...
Weddin .....	3,000	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Windouran .....	460	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wingadee .....	2,960	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wyong .....	10,500	...	...	1	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	4
Yallaroi .....	3,690	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Yanko .....	3,310	...	...	1	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Yarrowlumla .....	3,100	...	...	4	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...
Total, Shires .....	500,630	5	1	171	...	120	13	7	2	12	5	...	1	1	...	3	2	...	69	

† Undulant Fever—Snowy River Shire, 1 case.

## WESTERN DIVISION (UNINCORPORATED)—POLICE DISTRICTS.†

(Note.—Only those Police Districts for which cases are recorded are shown.)

Collarenebri .....	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Total, Unincorporated .....	14,590	...	...	...	...	...	...	1	1	1	...	...	...	...	...	...	...	...	...

## MISCELLANEOUS.

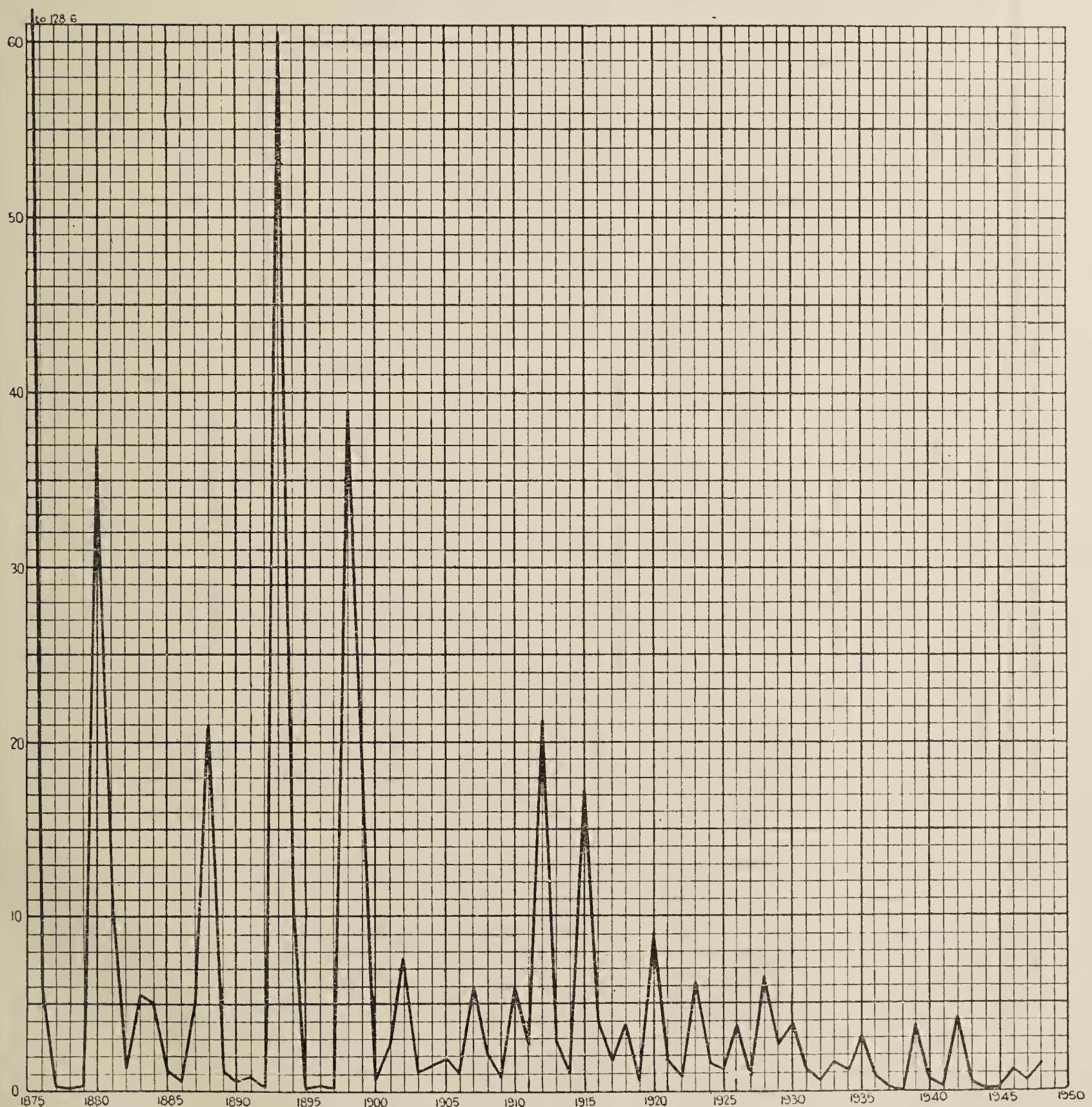
Lord Howe Island .....	197	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Migratory .....	7,326	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Outside the State—																			
Australian Capital Territory .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Queensland .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Victoria .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
South Australia .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total, Miscellaneous .....	7,523	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total, New South Wales .....	3,029,573	17	2	1,358	4	600	51	87	5	82	29	...	1	12	1	72	3	...	815

\* On 1st July, 1948, the Municipality of Uralla and the Shire of Gostwyck were amalgamated to form the Shire of Uralla. Figures are shown for the full year on the new basis.

† Population and deaths available only for unincorporated area as a whole.

## MEASLES

Annual Death Rate per 100,000 of Population in New South Wales, 1875-1948



Graph 5

TABLE VII.—Notifiable Infectious Diseases—Cases and Deaths by Sex and Age, Each Health District—1948.

Age Group.	Typhoid and Paratyphoid Fever.				Scarlet Fever.				Diphtheria.				Infantile Paralysis.				Cerebrospinal Meningitis.				Encephalitis Lethargica.				Typhus Fever.				Puerperal Infection.				Tuberculosis (All Forms).			
	Cases.		Deaths.		Cases.		Deaths.		Cases.		Deaths.		Cases.		Deaths.		Cases.		Deaths.		Cases.		Deaths.		Cases.		Deaths.		Cases.		Deaths.					
	M.	F.	T.	M.	M.	F.	T.	M.	M.	F.	T.	M.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.			
All ages .....	3	4	7	...	1	1	1	374	431	805	...	1	1	90	97	187	7	10	17	29	56	...	1	1	1	1	56	13	391	175	566					
Under 1 year .....	1	1	2	...	1	1	1	170	122	292	...	1	1	44	34	78	4	5	3	3	4	...	1	1	1	1	2	3	...	2	6					
1-4 years .....	1	1	2	...	1	1	1	172	230	402	...	1	1	36	44	80	2	3	5	6	19	6	13	19	15	2	5	...	3	5						
5-14 .....	1	3	4	...	1	3	4	13	26	39	...	1	3	2	4	6	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	12			
15-24 .....	1	3	4	...	1	3	4	13	26	39	...	1	3	2	4	6	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8			
25-34 .....	1	3	4	...	1	3	4	13	26	39	...	1	3	2	4	6	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8			
35-44 .....	1	3	4	...	1	3	4	13	26	39	...	1	3	2	4	6	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8			
45-54 .....	1	3	4	...	1	3	4	13	26	39	...	1	3	2	4	6	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8			
55-64 .....	1	3	4	...	1	3	4	13	26	39	...	1	3	2	4	6	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8			
65 years and over .....	1	3	4	...	1	3	4	13	26	39	...	1	3	2	4	6	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8			
Not stated .....	1	3	4	...	1	3	4	13	26	39	...	1	3	2	4	6	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	11			

Metrop.—Undulant Fever, 1 male aged 34 years.

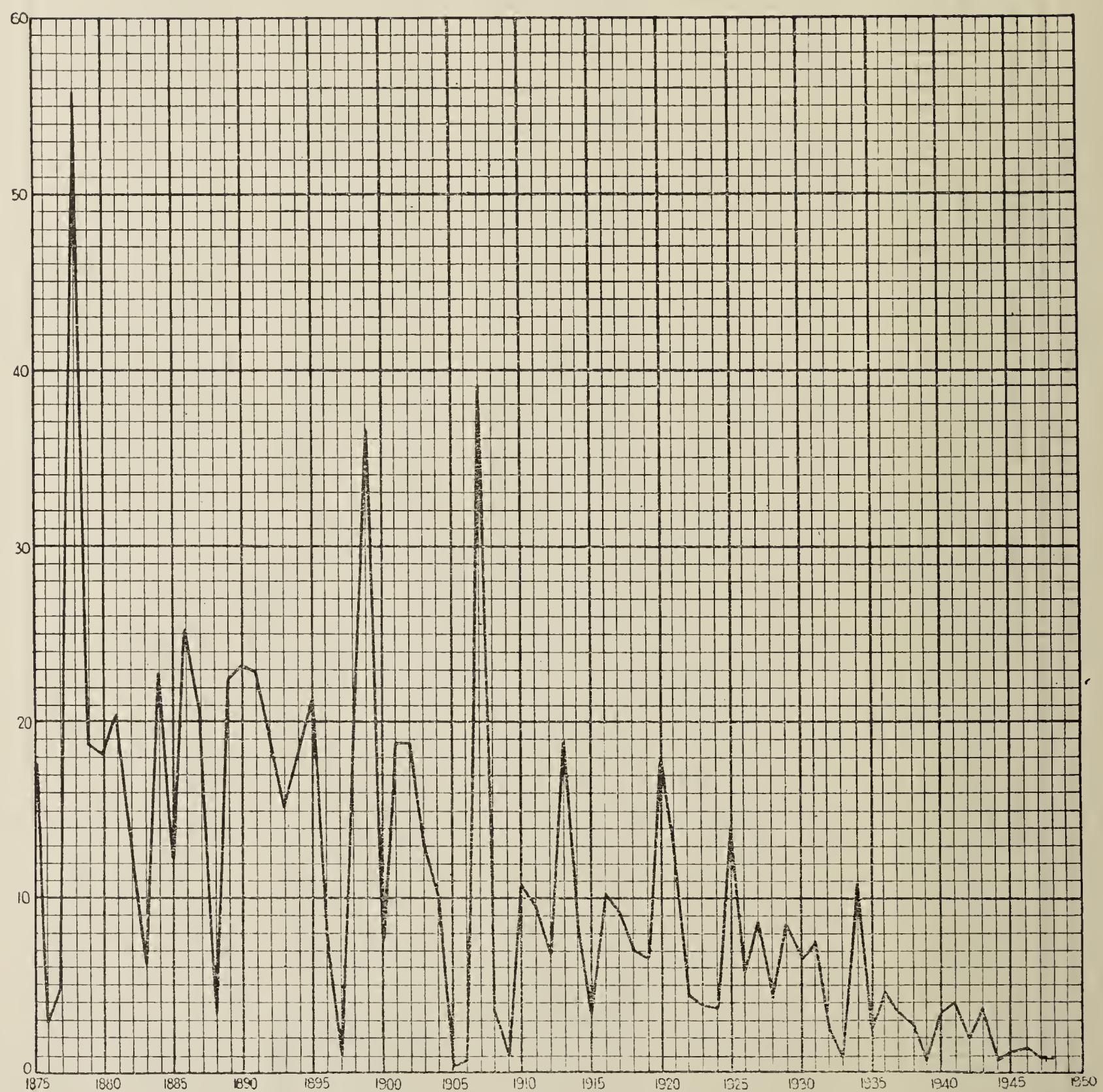
Age Group.	Typhoid and Paratyphoid Fever.				Scarlet Fever.				Diphtheria.				Infantile Paralysis.				Cerebrospinal Meningitis.				Encephalitis Lethargica.				Typhus Fever.				Puerperal Infection.				Tuberculosis (All Forms).			
	Cases.		Deaths.		Cases.		Deaths.		Cases.		Deaths.		Cases.		Deaths.		Cases.		Deaths.		Cases.		Deaths.		Cases.		Deaths.		Cases.		Deaths.					
	M.	F.	T.	M.	M.	F.	T.	M.	M.	F.	T.	M.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.			
All ages .....	3	4	7	...	1	1	1	374	431	805	...	1	1	90	97	187	7	10	17	29	56	...	1	1	1	1	56	13	391	175	566					
Under 1 year .....	1	1	2	...	1	1	1	170	122	292	...	1	1	44	34	78	4	5	3	3	4	...	1	1	1	1	2	3	...	2	6					
1-4 years .....	1	1	2	...	1	1	1	172	230	402	...	1	1	36	44	80	2	3	5	6	19	6	13	19	15	2	5	...	3	5						
5-14 .....	1	3	4	...	1	3	4	13	26	39	...	1	3	2	4	6	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8			
15-24 .....	1	3	4	...	1	3	4	13	26	39	...	1	3	2	4	6	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8			
25-34 .....	1	3	4	...	1	3	4	13	26	39	...	1	3	2	4	6	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8			
35-44 .....	1	3	4	...	1	3	4	13	26	39	...	1	3	2	4	6	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8			
45-54 .....	1	3	4	...	1	3	4	13	26	39	...	1	3	2	4	6	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8			
55-64 .....	1	3	4	...	1	3	4	13	26	39	...	1	3	2	4	6	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	8			
65 years and over .....	1	3	4	...	1	3	4	13	26	39	...	1	3	2	4	6	...	1	1</td																	

TABLE VII.—Notifiable Infectious Diseases—Cases and Deaths by Sex and Age, Each Health District—1948—continued.

Age Group.	Typhoid and Paratyphoid Fever.			Scarlet Fever.			Diphtheria.			Infantile Paralysis.			Cerebrospinal Meningitis.			Encephalitis Lethargica.			Typhus Fever.			Puerperal Infection.			Tuberculosis (All Forms).					
	Cases.		Deaths.	Cases.		Deaths.	Cases.		Deaths.	Cases.		Deaths.	Cases.		Deaths.	Cases.		Deaths.	Cases.		Deaths.	Cases Dths.		Deaths.						
	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.			
MITCHELL HEALTH DISTRICT.																														
All ages	1	1	...	21	23	44	1	1	13	8	21	1	1	1	1	1	1	1	2	2	2	2	19	10	29					
Under 1 year	...	...	...	...	1	1	...	5	5	10	10	1	1	1	1	1	1	1	2	2	2	2	...	...	...	...	...			
1-4 years	...	...	...	...	8	16	...	11	13	24	1	1	1	1	1	1	1	1	4	4	4	4	...	...	...	...	...			
5-14	“	“	“	“	11	13	24	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
15-24	“	“	“	“	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
25-34	“	“	“	“	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
35-44	“	“	“	“	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
45-54	“	“	“	“	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
55-64	“	“	“	“	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1			
65 years and over	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
Not stated	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
BROKEN HILL DISTRICT.																														
All ages	...	...	...	...	...	...	...	2	4	6	...	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
Under 1 year	...	...	...	...	...	...	...	1	1	2	...	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
1-4 years	...	...	...	...	...	...	...	1	3	4	...	...	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1		
5-14	“	“	“	“	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
15-24	“	“	“	“	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
25-34	“	“	“	“	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
35-44	“	“	“	“	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
45-54	“	“	“	“	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
55-64	“	“	“	“	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
65 years and over	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
Not stated	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
REMAINDER OF STATE.																														
All ages	3	3	6	1	1	...	1	110	170	280	...	...	90	86	176	8	7	15	17	5	3	8	1	1	1	1	1	1		
Under 1 year	...	1	1	2	1	3	...	33	41	74	...	...	8	2	10	2	2	4	1	1	2	1	1	1	1	1	1	1	1	
1-4 years	...	1	1	2	1	3	...	59	90	149	...	...	35	28	63	5	3	8	2	1	1	2	1	1	1	1	1	1	1	1
5-14	“	“	“	“	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
15-24	“	“	“	“	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
25-34	“	“	“	“	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
35-44	“	“	“	“	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
45-54	“	“	“	“	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
55-64	“	“	“	“	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
65 years and over	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Not stated	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
All ages	8	9	17	1	1	2</td																								

## WHOOPING COUGH

Annual Death Rate per 100,000 of the Population in New South Wales, 1875-1948



Graph 6

TABLE VIII.—Notifiable Infectious Diseases—Cases and Deaths by Month, each Health District—1948.

Month.	Typhoid and Paratyphoid Fever.		Scarlet Fever.		Diphtheria.		Infantile Paralysis.		Cerebro-spinal Meningitis.		Encephalitis Lethargica.		Typhus Fever.		Puerperal Infection.		Tuberculosis (All Forms).	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.

## METROPOLITAN COMBINED SANITARY DISTRICTS.

January .....	...	...	56	...	20	1	11	...	2	2	...	...	...	1	4	...	...	38	
February .....	2	1	48	...	14	1	8	...	4	2	...	...	...	...	8	...	...	36	
March .....	1	...	68	...	18	1	7	...	2	...	...	...	...	...	6	1	...	49	
April .....	...	...	74	...	24	1	8	...	...	...	...	...	...	...	6	4	...	44	
May .....	...	...	54	...	17	3	2	...	2	1	...	...	...	...	6	1	...	51	
June .....	1	...	60	...	20	2	1	...	11	2	...	...	...	...	3	...	...	50	
July .....	...	...	61	...	8	1	5	...	7	2	...	...	...	...	4	1	...	57	
August .....	1	...	74	...	15	...	1	...	9	3	...	...	...	...	6	1	...	73	
September .....	...	...	50	...	9	3	4	1	3	...	...	...	...	1	...	5	3	...	38
October .....	...	...	81	...	16	2	2	...	1	1	...	...	...	2	...	1	...	45	
November .....	1	...	92	1	15	2	4	...	3	1	...	...	...	...	4	...	...	45	
December .....	1	...	87	...	11	...	3	...	3	1	...	...	...	...	3	2	...	40	
Total .....	7	1	805	1	187	17	56	1	47	15	...	...	...	3	1	56	13	...	566

Undulant Fever—1 case in January.

## HUNTER RIVER COMBINED SANITARY DISTRICTS.

January .....	...	...	15	...	6	...	...	1	...	...	...	...	...	...	1	...	...	8	
February .....	...	...	16	...	17	1	1	...	...	...	...	...	...	...	...	...	...	3	
March .....	...	...	26	...	7	1	2	1	...	...	...	...	...	...	1	...	...	...	
April .....	...	...	26	...	18	3	1	...	...	...	...	...	...	...	...	1	...	5	
May .....	...	...	19	...	20	1	...	...	1	...	...	...	...	...	...	...	...	5	
June .....	...	...	7	1	7	...	...	...	...	...	...	...	...	...	...	...	...	6	
July .....	...	...	7	...	6	...	...	...	...	...	...	...	...	...	...	...	...	10	
August .....	...	...	10	1	11	...	...	...	...	...	...	...	...	...	...	...	...	5	
September .....	...	...	3	...	3	1	...	...	1	...	...	...	...	2	...	...	...	5	
October .....	...	...	8	...	7	1	1	...	...	...	...	...	...	...	...	...	...	2	
November .....	...	...	10	...	9	...	...	...	...	...	...	...	...	...	...	...	...	2	
December .....	...	...	11	...	7	1	1	...	...	...	...	...	...	...	...	...	...	3	
Total .....	...	...	158	2	118	9	6	1	3	...	...	...	...	2	...	2	1	...	54

## SOUTH COAST HEALTH DISTRICT.

January .....	...	...	1	...	2	...	1	...	1	...	...	...	...	...	1	...	...	3	
February .....	...	...	4	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	
March .....	...	...	7	...	5	3	...	...	...	...	...	...	...	...	...	...	...	...	
April .....	...	...	8	...	5	1	...	...	...	...	...	...	...	...	...	...	...	4	
May .....	...	...	5	...	3	...	...	...	...	...	...	...	...	...	...	...	...	1	
June .....	...	...	4	...	2	1	...	...	1	1	...	...	...	...	...	...	...	1	
July .....	...	...	2	...	...	1	...	...	1	...	...	...	...	...	...	...	...	4	
August .....	...	...	3	...	2	...	...	...	1	...	...	...	...	...	...	...	...	3	
September .....	...	...	...	...	2	1	...	...	...	1	...	...	...	...	...	...	...	2	
October .....	...	...	1	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	
November .....	...	...	4	...	1	...	...	...	...	...	...	...	...	...	...	...	...	3	
December .....	...	...	1	...	...	...	1	...	1	...	...	...	...	...	1	...	...	3	
Total .....	...	...	40	...	22	7	2	...	6	2	...	...	...	...	2	...	2	...	27

## RICHMOND-TWEED HEALTH DISTRICT.

January .....	2	...	7	...	6	...	...	1	...	...	...	...	...	...	...	...	...	1
February .....	1	...	1	...	6	...	...	...	...	...	...	...	...	2	...	...	...	2
March .....	...	...	1	...	7	...	...	...	...	...	...	...	...	...	...	...	...	...
April .....	...	...	3	...	8	1	...	...	1	...	...	...	...	...	...	...	...	1
May .....	...	...	1	...	8	...	...	...	...	...	...	...	...	...	1	...	...	...
June .....	...	...	3	...	11	...	...	...	...	1	...	...	...	2	...	2	...	1
July .....	...	...	...	...	6	1	...	...	...	...	...	...	...	1	...	...	1	2
August .....	...	...	2	...	3	...	...	...	...	...	...	...	...	...	...	...	...	1
September .....	...	...	3	...	6	...	...	...	...	...	...	...	...	...	...	...	...	1
October .....	...	...	1	...	6	...	...	...	...	...	...	...	...	1	...	...	...	1
November .....	...	...	2	...	2	...	...	...	1	1	...	...	...	...	...	...	...	...
December .....	...	...	1	...	6	...												

TABLE VIII.—Notifiable Infectious Diseases—Cases and Deaths by Month, each Health District—1948—*continued*.

Month.	Typhoid and Paratyphoid Fever.		Scarlet Fever.		Diphtheria.		Infantile Paralysis.		Cerebro-spinal Meningitis.		Encephalitis Lethargica.		Typhus Fever.		Puerperal Infection.		Tuberculosis (All Forms).	
	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.

## MITCHELL HEALTH DISTRICT.

January .....	...	...	...	...	2	1	1	...	1	...	...	...	...	...	...	...	...	...	2
February .....	...	...	2	...	4	...	1	...	2	2	...	...	...	...	...	1	...	...	...
March .....	1	...	6	1	8	...	2	...	...	...	...	...	...	...	...	...	...	...	...
April .....	...	...	7	...	4	...	1	...	...	...	...	...	...	...	...	...	...	...	2
May .....	...	...	7	...	1	...	1	...	...	...	...	...	...	...	...	1	...	...	1
June .....	...	...	6	...	1	...	1	...	1	...	...	...	...	...	...	...	...	...	7
July .....	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	4
August .....	...	...	...	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	4
September .....	...	...	4	...	...	...	...	...	1	...	...	...	...	...	1	...	...	...	3
October .....	...	...	2	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	3
November .....	...	...	6	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	2
December .....	...	...	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
Total .....	1	...	44	1	21	1	7	...	6	2	...	...	...	...	4	2	...	29	

## BROKEN HILL DISTRICT.

January .....	...	...	4	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	2
February .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
March .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
April .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
May .....	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
June .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
July .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
August .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
September .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2
October .....	...	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1
November .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
December .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total .....	...	...	6	...	1	...	...	...	...	...	...	...	...	...	...	...	...	...	8

## REMAINDER OF STATE.

January .....	...	...	26	...	20	1	9	...	1	1	...	...	...	...	...	...	...	...	9
February .....	...	...	29	...	10	...	...	1	...	1	...	...	1	...	...	2	1	...	13
March .....	3	1	43	...	39	1	1	1	1	1	...	...	...	...	...	7	1	...	5
April .....	...	...	27	...	40	3	1	...	1	...	...	...	...	...	...	...	...	...	4
May .....	...	...	30	...	11	1	1	...	1	...	...	...	...	...	...	...	...	...	13
June .....	1	...	27	...	8	3	...	1	2	1	...	...	...	...	...	2	...	...	12
July .....	...	...	17	...	6	1	2	1	4	2	...	...	...	...	...	...	...	...	16
August .....	1	...	16	...	9	2	2	...	1	2	...	...	1	...	...	1	...	...	8
September .....	...	...	15	...	15	1	...	...	1	...	...	...	...	...	...	...	...	...	6
October .....	1	...	13	...	1	...	...	...	1	1	...	...	...	...	...	1	1	...	5
November .....	...	...	19	...	4	1	...	...	3	...	...	...	...	...	...	1	...	...	18
December .....	...	...	18	...	13	1	...	...	1	...	...	...	...	...	...	1	...	...	11
Total .....	6	1	280	...	176	15	16	3	17	8	...	1	1	...	8	3	...	120	

Undulant Fever—1 case in April.

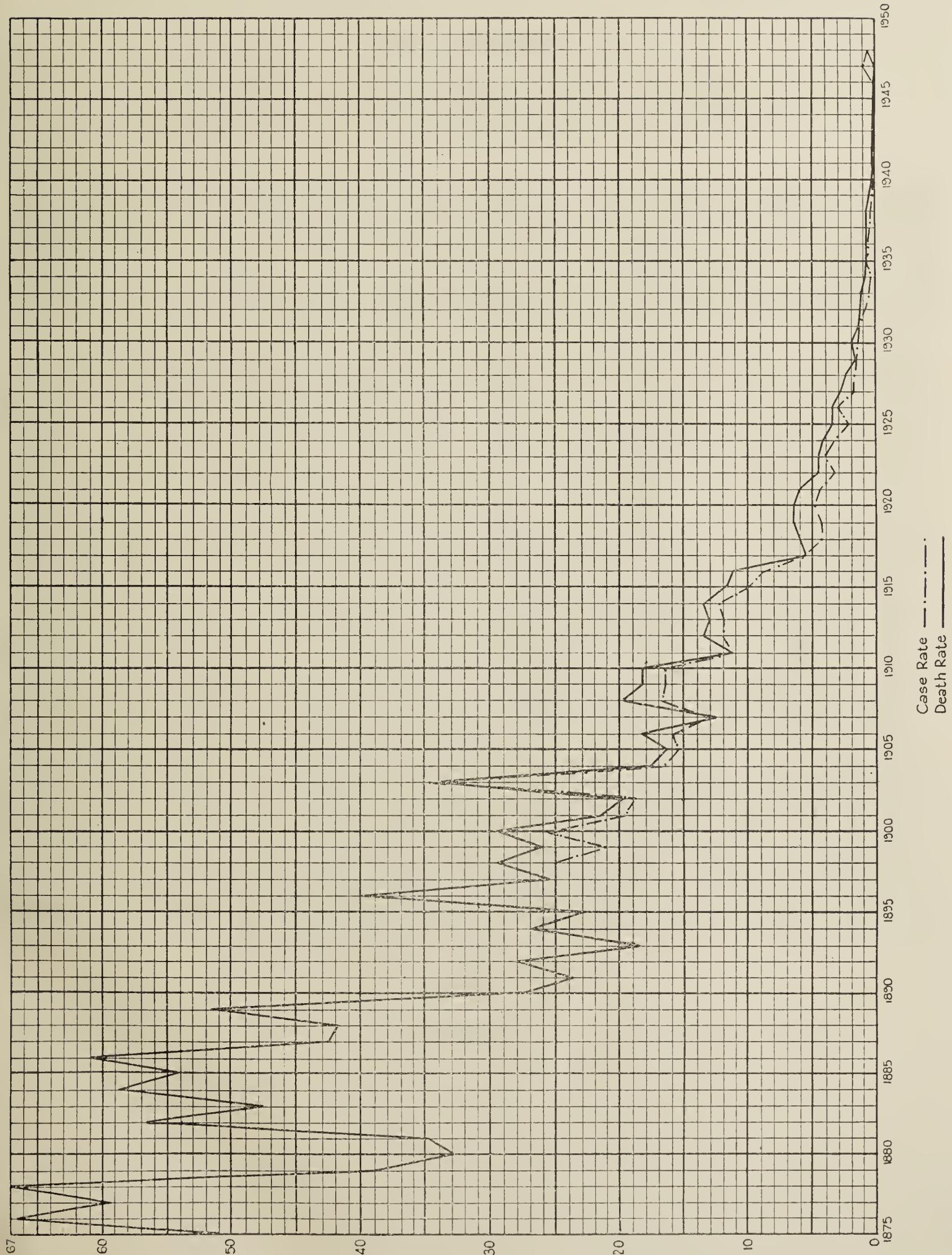
## WHOLE STATE.

January .....	2	...	109	...	57	3	22	...	7	3	...	...	1	5	1	...	...	63
February .....	3	1	100	...	51	2	10	...	7	4	...	1	2	11	1	...	...	57
March .....	5	1	151	1	84	6	12	2	3	...	...	...	...	7	1	...	...	54
April .....	...	...	145	...	99	9	11	...	2	...	...	...	...	6	5	...	...	62
May .....	...	...	117	...	60	5	4	...	4	1	...	...	...	9	1	...	...	72
June .....	2	...	107	1	49	6	2	1	15	5	...	...	2	7	...	...	...	77
July .....	...	...	89	...	26	4	7	1	12	4	...	1	...	4	2	...	...	93
August .....	2	...	105	1	41	2	3	...	12	5	...	1	...	6	2	...	...	95
September .....	...	...	75	...	35	6	4	1	6	1	...	3	...	6	3	...	...	57
October .....	1	...	107	...	30	3	3	...	3	2	...</							

## TYPHOID FEVER

Annual Death Rate per 100,000 of Population in New South Wales, 1875-1948

Annual Case Rate per 10,000 of Population in New South Wales, 1898-1948

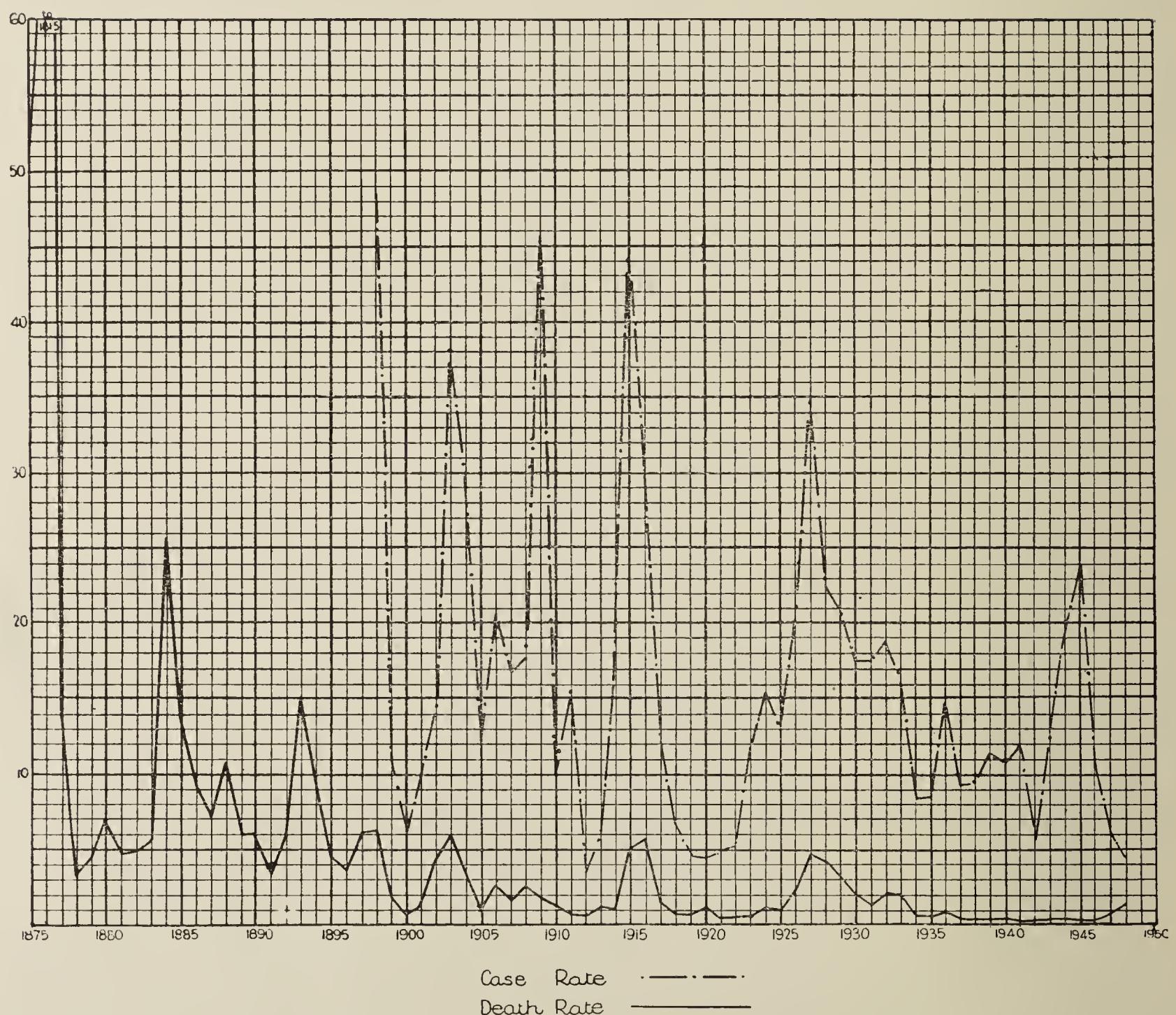


Graph 7

## SCARLET FEVER

Annual Death Rate per 100,000 of Population in New South Wales, 1875-1948

Annual Case Rate per 10,000 of Population in New South Wales, 1898-1948



Graph 8

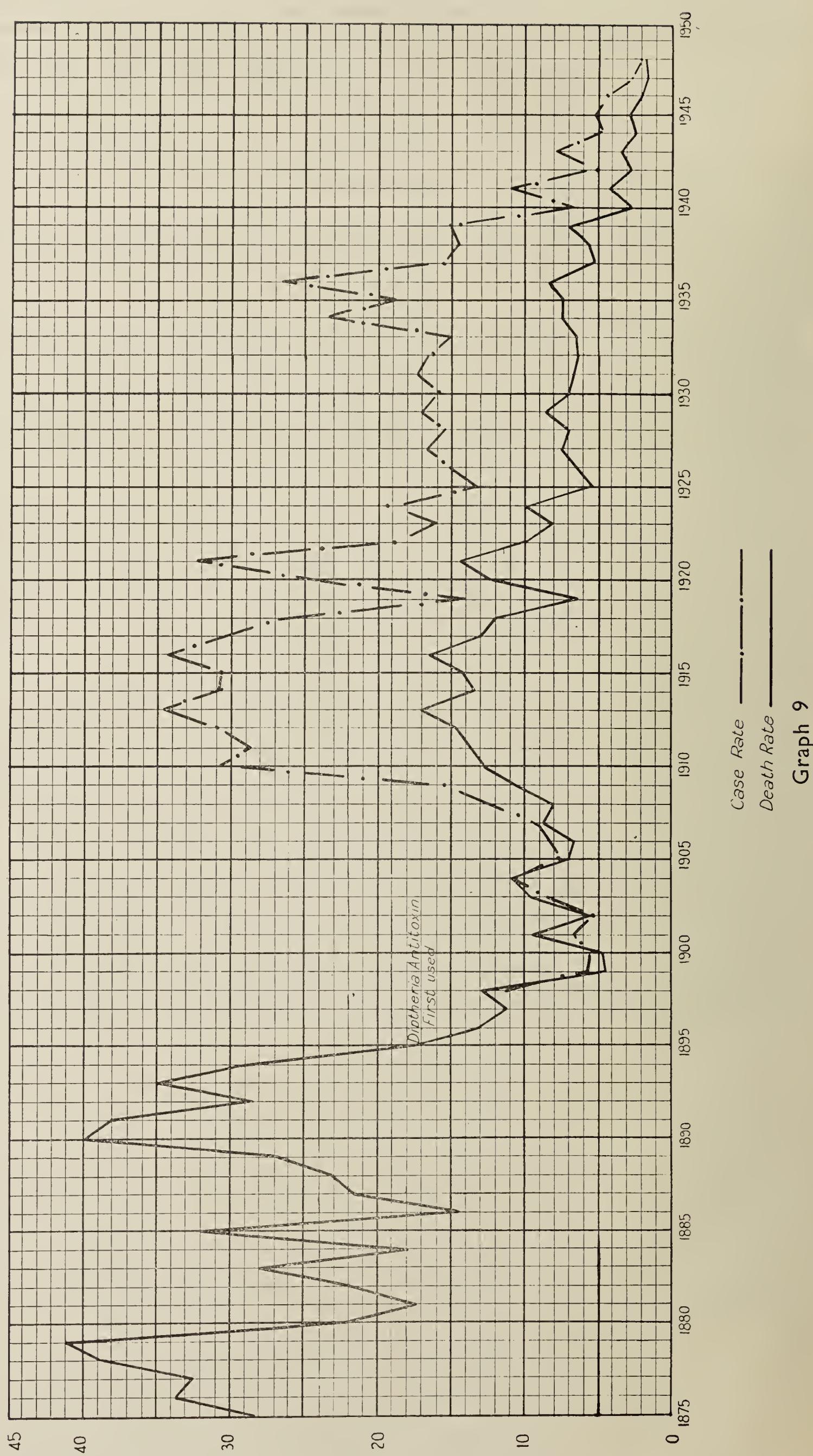
TABLE IX.—Summary, 1948.

District.	Estimated Mean Population.	Typhoid and Para-typhoid Fever.		Scarlet Fever.		Diph-theria.		Infantile Paralysis.		Cerebro-spinal Menin-gitis.		Eneepha-litis Lethar-gica.		Typhus Fever.		Puerperal Infection.		Tuber-culosis (All Forms).	
		C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.	C.	D.
Metropolitan Combined Sanitary District .....	1,626,860	7	1	805	1	187	17	56	1	47	15	...	...	3	1	56	13	...	566
Hunter River Combined Sanitary District .....	246,900	...	...	158	2	118	9	6	1	3	...	...	...	2	...	2	1	...	54
South Coast Health District.....	117,750	...	...	40	...	22	7	2	...	6	2	...	...	...	...	...	2	...	27
Richmond-Tweed Health District .....	113,790	3	...	25	...	75	2	...	...	3	2	...	...	6	...	3	1	...	11
Mitchell Health District .....	115,580	1	...	44	1	21	1	7	...	6	2	...	...	...	...	4	2	...	29
Broken Hill District .....	27,740	...	...	6	...	1	...	...	...	...	...	...	...	...	...	...	...	...	8
Remainder of State—																			
Municipalities .....	258,210	1	...	109	...	56	1	8	...	5	3	...	...	...	...	4	1	...	51
Shires .....	500,630	5	1	171	...	120	13	7	2	12	5	...	1	1	...	3	2	...	69
Unincorporated .....	14,590	...	...	...	...	...	1	1	1	...	...	...	...	...	...	...	...	...	...
Lord Howe Island .....	197	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Migratory .....	7,326	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Residence outside the State .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total, New South Wales .....	3,029,573	17	2	1,358	4	600	51	87	5	82	29	...	1	12	1	72	22	...	815

Undulant Fever—3 cases.

## DIPHTHERIA

Annual Death Rate per 100,000 of Population in New South Wales, 1875-1948  
Annual Case Rate per 100,000 of Population in New South Wales, 1898-1948



## DIVISION OF SOCIAL HYGIENE.

Report of the Director, Division of Social Hygiene, to the Director-General of Public Health, for the Year Ending  
31st December, 1948.

## Staff.

*Director:* J. Cooper Booth, M.B., Ch.B. (Edin.).

*Senior Medical Officer:* J. H. Abbott, M.B., Ch.M. (Syd.).

*Medical Officers:* F. A. Brierley, M.B. (Sydney); J. P. Barry, M.B., B.S. (Syd.).

*Clerical:* L. Maher, four assistants and typiste.

*Senior Clinic Assistant:* R. C. Lewry with clinic assistant and seven attendants.

## The Outlook in Regard to Control of Venereal Disease.

The introduction of penicillin has made a very great difference in regard to the control of venereal disease. Gonorrhoea is becoming less common and it is probable that it may become a minor health problem within a very few years.

The outlook in regard to syphilis is still not clear in spite of the recent introduction of new methods of penicillin therapy which appear promising. Time alone, measured in years, can prove the permanency of apparent cures and sufficient time has not yet elapsed to enable a firm opinion to be expressed. Many patients who have received penicillin treatment for acute syphilis appear to be cured if one may judge by the records available.

## Publicity.

Since the end of the war there has been a marked decline in press publicity regarding venereal disease.

The Director of the Division gave twenty-four lectures during the year which was two more than the previous year.

These talks, given to adults, dealt with sex education and venereal disease.

## VENEREAL DISEASES ACT, 1918.

## Report on Notifications Received during the Year ended 31st December, 1948.

Four thousand one hundred and ninety-nine notifications of venereal disease were received during the year 1948, a decrease of 812 as compared with the previous year. The notifications received from private practitioners amounted to 20.1 per cent. of the total as compared with 13.1 per cent. in 1947 and 10.6 per cent. in 1946. The majority (92.2 per cent.) of the notifications came from the metropolitan area.

## Syphilis.

There were 1,107 notifications of syphilis, which was an increase of ninety-seven on the number received during the previous year. The sex ratio was 2.6 males to 1 female.

Of the cases notified, 15.5 per cent. were being treated privately, as compared with 12.7 per cent. in 1947 and 11.2 per cent. in 1946.

Syphilis contributed 26.4 per cent. to the total notifications of venereal disease, as compared with 20.1 per cent. in 1947 and 18.9 per cent. in 1946.

Of the syphilitic infections notified, 618 cases (55.8 per cent.) were classified as acute infections, as compared with 518 (51.3 per cent.) in 1947 and 532 (51.9 per cent.) in 1946.

The notifications of syphilis gave an incidence of 36.6 per 100,000 of mean population for 1948, as compared with 33.8 in 1947 and 35.0 in 1946.

## Gonorrhoea.

Of the 4,199 total notifications received during the year, 2,884 were for gonorrhoea (2,573 males and 311 females), a figure 906 below that for 1947. The sex ratio of notified cases was 8.3 males to 1 female.

## Prophylaxis.

The prophylactic facilities at the Divisional Clinic continued to be used by a large number of men and 18,065 treatments were given during the year.

Eighty-three per cent. of treatments were given during the night and early morning hours and at week ends.

## Divisional Clinic.

The clinic for the treatment of males, which is operated by the Division, treated 6,783 persons of which number 1,176 were carried forward from the previous year.

The turn-over for the year was 84 per cent. which left a carry-over of 1,080 for the following year.

Of the 5,607 patients who were added during the year 1,521 (27.1 per cent.) were found to be suffering from a venereal disease.

The total visits paid by all patients was 56,593.

The notifications received from private practitioners amounted to 19.2 per cent. of the total gonorrhoea, as compared with 11.7 per cent. in 1947 and 8.0 per cent. in 1946. The percentage of gonorrhoea in the total notifications of venereal disease received during 1948 was 68.7 per cent., as compared with 75.6 per cent. in 1947 and 77.1 per cent. in 1946.

The notifications of gonorrhoea gave an incidence of 95.3 per 100,000 of mean population, as compared with 126.9 in 1947 and 142.3 in 1946.

#### Other Forms of Venereal Disease.

*Soft Chancre (Chancroid).*—Nine cases (all male) were reported.

*Gonococcal Ophthalmia.*—There were no notifications.

*Venereal Warts.*—Eighty-five cases were notified (eighty male and five female).

*Gleet.*—There were 114 notifications.

*Venereal Granuloma.*—There were no notifications.

#### Failure to Continue Treatment.

During 1948 the names and addresses of 1,057 defaulters (900 males and 157 female) were notified. This figure was 474 below that for 1947.

On account of inaccurate information having been given or patients having failed to notify change of address, 312 letters were returned unclaimed—giving 29.5 per cent. unclaimed letters, as compared with 37.4 per cent. in 1947 and 36.8 per cent. in 1946.

The following table shows the percentage of defaulters who remained permanent defaulters:—

Year.	Total Defaulters Notified.	Resumed Treatment Died or Left State.	Remained in Default.	Remaining in Default.	Per cent.
1944	1,129	810	319	28.2	
1945	1,154	689	465	40.3	
1946	1,298	769	529	40.7	
1947	1,531	913	618	40.4	
1948	1,057	653	404	38.2	

#### Clinics.

Attendances at clinics for males totalled 72,159 (78.4 per cent. of this total representing attendances at the Health Department Clinic in the Division of Social Hygiene), as compared with 84,202 in 1947 and 94,446 in 1946.

At the clinics for females the attendances were 11,775 (53.3 per cent. of this total being at the Special Clinic at the Rachel Forster Hospital for Women and Children), as compared with 12,507 in 1947 and 17,281 in 1946.

The sex ratio of attendances was 6.1 males to 1 female, as compared with 6.7 males to 1 female in 1947 and 5.5 males to 1 female in 1946.

*Metropolitan District.*—Ten clinics are available. The clinic at the Health Department is continuous during the day closing, in regard to treatment, at 7.30 p.m. on Monday, Tuesday and Thursday and at 5 p.m. on Wednesday and Friday. Prophylactic facilities are continuously available day and night at the Departmental Clinic and 18,065 prophylactic treatments were given during 1948, as compared with 18,287 in 1947 and 16,452 in 1946.

*Newcastle District.*—The clinic at the Newcastle Hospital provided 71.4 per cent. of those notified from the Newcastle District. Prophylactic facilities are available at Newcastle Hospital.

*District General Hospitals.*—Treatment is available at country hospitals.

*Bed Accommodation.*—Beds are available in the metropolitan area for males and females as required.

#### Pathological Examinations.

In 1948, 46,277 serologic tests were made on 21,341 specimens, as compared with 47,692 on 22,315 in 1947 and 70,517 on 32,208 in 1946.

During 1948, 7,567 smears were examined for gonococci, as compared with 9,755 in 1947 and 14,783 in 1946.

Examinations for treponema pallidum numbered 687 in 1948, as compared with 763 in 1947 and 586 in 1946.

#### Prosecutions.

Action was taken against 409 persons for breach of section 5 of the Act (failure to continue under treatment). This is an increase of 6 over the number proceeded against during 1947.

The following tables are appended:—

Table 1.—Notifications received during 1948 arranged in order of district from which notifications came.

Table 2.—Return of cases of venereal disease notified during 1948, showing forms of disease and age and sex of patients.

Table 3.—Summary of total attendances at various public clinics during 1948.

TABLE I.—Notifications received during 1946 to 1948, arranged in order of Districts.

	Metropolitan Area.			Newcastle District.			Remainder of State.		
	1946.	1947.	1948.	1946.	1947.	1948.	1946.	1947.	1948.
Gonorrhoea .....	3,665	3,255	2,642	339	407	161	159	128	81
Syphilis .....	949	866	1,021	34	41	42	41	103	44
Soft Chancre .....	3	21	9	...	...	...	...	...	...
Gleet .....	114	101	114	...	1	...	...	...	...
Venereal Warts.....	96	86	85	...	...	...	...	...	...
Gon. Ophthalmia .....	...	...	...	...	...	...	...	1	...
Venereal Granuloma	1	...	...	...	...	...	...	1	...
Total .....	4,828	4,329	3,871	373	449	203	200	233	125

TABLE II.—Return of Cases of Venereal Diseases notified during 1948, showing forms of Disease and Age and Sex of Patient.

	0-5.	6-10.	11-15.	16-20.	21-25.	26-30.	31-35.	36-40.	41-45.	46-50.	Over 50.	Age not Stated.	Totals.	Grand Total.													
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.													
Gonorrhoea .....	1	4	1	5	4	2	262	74	727	81	543	57	299	42	198	38	114	14	68	5	54	11	262	18	2,573	311	2,884
Syphilis .....	5	7	1	...	2	5	37	46	167	64	149	54	85	36	70	33	50	15	49	8	101	29	88	5	804	303	1,107
Soft Chancre .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	9
Gleet .....	...	...	...	...	...	...	...	...	17	...	27	...	18	...	18	...	9	...	9	...	16	...	...	...	114	114	
Venereal Warts.....	...	...	...	...	...	...	7	3	39	...	13	...	11	1	2	1	2	...	2	...	...	4	...	80	5	85	
Gon. Ophthalmia .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Venereal Granuloma	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
Totals .....	6	11	2	5	6	7	306	123	950	145	732	111	413	79	288	72	176	29	128	14	171	40	362	23	3,550	619	4,199

TABLE III.—Table showing Annual Attendance Returns at Public Clinic for Treatment of Venereal Diseases—1946, 1947 and 1948, inclusive.

Year.	Attendances.			New Cases.					
				Gonorrhoea.			Syphilis.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
HEALTH DEPARTMENT CLINIC.									
1946	80,734	...	80,734	2,011	...	2,011	282	...	282
1947	66,817	...	66,817	1,486	...	1,486	321	...	321
1948	56,593	...	56,593	1,131	...	1,131	319	...	319
ROYAL PRINCE ALFRED HOSPITAL.									
1946	4,523	3,136	7,659	151	36	187	45	20	65
1947	8,080	2,360	10,440	389	35	424	69	52	121
1948	6,471	1,573	8,044	261	37	298	120	50	170
SYDNEY HOSPITAL.									
1946	2,375	817	3,192	50	4	54	34	18	52
1947	4,396	906	6,002	455	5	460	37	18	55
1948	5,597	1,353	6,950	351	9	360	64	29	93
ROYAL ALEXANDRA HOSPITAL FOR CHILDREN.									
1946	284	580	864	...	2	2	1	2	3
1947	213	406	619	...	3	3	2	3	5
1948	84	402	486	1	6	7	2	4	6
ROYAL SOUTH SYDNEY HOSPITAL.									
1946	152	99	251	3	...	3	2	1	3
1947	145	125	270	4	1	5	2	...	2
1948	191	51	242	2	1	3	4	1	5
ROYAL NORTH SHORE HOSPITAL.									
1946	717	774	1,491	6	3	9	6	5	11
1947	722	727	1,449	17	...	17	10	9	19
1948	727	724	1,451	23	2	25	12	8	20
NEWCASTLE DISTRICT HOSPITAL									
1946	4,865	1,327	6,192	147	21	168	17	10	27
1947	3,126	1,091	4,217	136	16	152	21	5	26
1948	2,252	1,360	3,612	98	13	111	22	12	34
RACHEL FORSTER HOSPITAL FOR WOMEN.									
1946	...	9,846	9,846	...	331	331	...	84	84
1947	...	6,327	6,327	...	203	203	...	74	74
1948	...	6,278	6,278	...	112	112	...	94	94
PARRAMATTA DISTRICT HOSPITAL.									
1946	364	226	590	2	2	4	12	2	14
1947	287	107	394	10	1	11	3	1	4
1948	244	34	278	7	...	7	4	3	7

## ANNUAL REPORT FOR 1948—CONSULTATIVE COUNCIL FOR THE PHYSICALLY HANDICAPPED.

## Meetings.

Eleven Meetings of the Council and twelve of the Executive Committee were held during 1948.

## Personnel.

Following the resignation of Miss Docker, Mrs. Philcox, Occupational Therapist, Department of Social Services, was appointed to the Council as co-opted member representing the Australian Association of Occupational Therapists.

## \*Notifications of Poliomyelitis.

Eighty-seven confirmed notifications were received during the year.

An additional ten notifications were later cancelled, owing to amended diagnoses:—Three injury (1 at birth), 1 Cerebral Abscess, 1 Acute Osteomyelitis, 1 Pharyngitis, 1 Muscular Rheumatism, 1 Guillain Barre Syndrome, 1 Rickets, 1 Rheumatic Fever.

*Monthly Incidence* according to the date of onset of illness was as follows:—

Table I.

1948.	
January .....	13 cases.
February .....	10 "
March .....	15 "
April .....	6 "
May .....	3 "
June .....	5 "
July .....	5 "
August .....	3 "
September .....	3 "
October .....	5 "
November .....	5 "
December .....	1 case.
74 cases.	

The remaining thirteen cases had their onset in December, 1947.

*Geographical Distribution.*—Fifty-six cases were from the Metropolitan area; thirty-one cases were from the following rural districts:—

Hunter River District, 6.

City of Wollongong, 1.

Shires: Dumaraisq, 3; Gostwyck, 3; Marthaguy, 1; Wingham, 1; Peel, 1; Canobolas, 5; Patrick Plains, 1; Yanec, 2; Cudgegong, 1; Lyndhurst, 1; Walgett, 1; Macleay, 1; Burrangong, 1; Narraburra, 2.

\*Compiled as from date of onset.

TABLE II.

*Hospital Accommodation.*—Fifty-seven cases were admitted to Metropolitan Hospitals; five cases were admitted to Newcastle Hospital; twenty-two cases were admitted to Country Hospitals; three cases were nursed at home.

TABLE III.

*Sex.*—Forty-five cases (51.7 per cent.) were females; forty-two cases (48.3 per cent.) were males.

TABLE IV.

*Age*—70.2 per cent. of the cases were under the age of 10 years:—

Ages.	Males.	Females.	Total.	Per Cent.
Under 1 year .....	1	4	5	5.7
1-4 years .....	9	20	29	33.3
5-9 " .....	16	11	27	31.2
10-14 " .....	9	2	11	12.6
15-19 " .....	4	2	6	6.9
20-29 " .....	3	1	4	4.6
30-39 " .....	...	4	4	4.6
40 and over .....	...	1	1	1.1
Total .....	42	45	87	100

*Severity.*—Of the eighty-seven cases fifty-one, 58.6 per cent. (22 males, 29 females) had some form of paralysis, thirty-six, 41.4 per cent. (20 males, 16 females) were non-paralytic.

The fifty-one cases were followed up twelve-fifteen months after the onset of illness. Fifteen showed no after-effects, seventeen had mild paresis, fifteen had moderate to severe residual paralysis, and four had died.

TABLE V.

Forms of paralysis and severity in fifty-one cases:—

Form.	Cases.	Severe-moderate	Slight.	Non-paralytic	Fatal.
Spinal .....	44	13	16	14	1
Bulbar or Bulbo-spinal	3	1	1	...	1
Combined encephalitis	4	1		1	2
	51	15	17	15	4

*Deaths.*—Four cases (4.6 per cent.) died. Three females, one male.

TABLE VI.

Case.	Sex.	Age at Onset.	Duration of Illness.	Form.	Remarks.
F.C.	M.	12 yrs.	8 days	Bulbar-paralytic.	Very sudden onset. Went to bed apparently normal, wakened in morning paralyzed.
P.S.	F.	20mths.	10 "	Encephalitic ...	Onset with generalised convulsions.
A.T.	F.	16 "	20 "	Spinal paralytic.	Acute febrile onset. Paralysis developed near end of illness.
B.H.	F.	5 yrs.	11 "	Encephalitic ...	Measles 2 weeks previous to onset. History of poliomyelitis 2 years before, with residual paresis of left foot.

*After-care.*—The practice was continued of circularising medical practitioners and hospitals notifying poliomyelitis cases, thus endeavouring to follow up each case notified in New South Wales.

The Medical Officer conducted forty-two interviews at 52 Bridge-street in connection with after-care arrangements. Twenty-two visits were paid to patients in their homes, and twelve to those in institutions.

Eighty home visits were made by the Almoner, and the histories of 160 patients brought up to date through the co-operation of the records departments of twelve metropolitan hospitals.

The Almoner also visited West Maitland, Cessnock, Newcastle, and Gosford Districts in connection with after-care of known poliomyelitis cases.

Other Agencies visited in connection with supervision or training of physically handicapped persons included Hawkesbury Agricultural College, the Far West Home, Burnsides Homes, Parramatta, Sydney Technical Colleges, and the Newcastle Society for Crippled Children.

Expenditure in connection with After-care activities amounted to £295 6s. 9d.

- (a) Payment for Muscle re-education to poliomyelitis cases at the Far West Home, Manly (£72 8s.).
- (b) Payment for physiotherapy at home, to patients (8) unable to travel to Out-patient Clinics, or to afford private fees (£207 4s. 6d.).
- (c) Transport to Orthopaedic Clinics (one patient) (£3 9s.).
- (d) Payment for appliances (two surgical corsets, one plaster boot) (£12 5s. 3d.).

## Cases illustrating After-care arranged by the Council.

1. *J.McC.* (M.), age 34 years. A clerk, with a wife and child, developed poliomyelitis in June, 1946, and was in hospital for two years and three months. On discharge he was wearing a Taylor's brace and short irons, and was unable to travel to a clinic, or afford physiotherapy at home. The Council arranged and paid for tri-weekly physiotherapy until the patient was well enough to travel short distances and resume light clerical work.

2. *B.C.* (M.), age 9 years. The Almoner visited the home of B.C., who contracted poliomyelitis in 1946. He had been in hospital for over twelve months, and was still receiving physiotherapy and wearing a caliper. His parents were extremely worried about his physical condition,

and his behaviour was causing them great concern, yet punishment only resulted in nervous reactions which affected his general health. The Almoner suggested that this behaviour might be an expression of protest against the physical disability, and that unless he was helped to adjust himself further behaviour problems might develop. It was finally decided to transfer the boy to the Fred Birks Activity School, at the Royal Alexandra Hospital for Children. The Psychiatrist considered that his aggressive behaviour was simply the result of his disability, and with the change in his daily environment, he would make a good social adjustment. The parents expressed their gratitude for the help which was given them, the change in the lad's behaviour made them realise how little they understood his problem.

*Vocational Training.*—Several properties were inspected with a view to finding one that could be converted into a hostel for country applicants under the State Government Grant for the Vocational Training of Physically Handicapped Persons.

Only two were considered suitable and these were later withdrawn from sale.

Expenditure in connection with vocational training amounted to £245 3s. 5d.

	£	s.	d.
Accommodation .....	92	5	0
Fees and equipment .....	117	12	6
Transport .....	35	5	11
<b>Total .....</b>	<b>245</b>	<b>3</b>	<b>5</b>

Of the nine persons assisted during the year, four are still training.

(1) *G.C.* (M.), aet 13 years, referred by the Australian Association of Occupational Therapists, has a R. hemiplegia following a cerebral haemorrhage two years ago. He is having tuition in basketry, weaving and leatherwork, and his fees, and fares (with an escort) are being paid for by the Council.

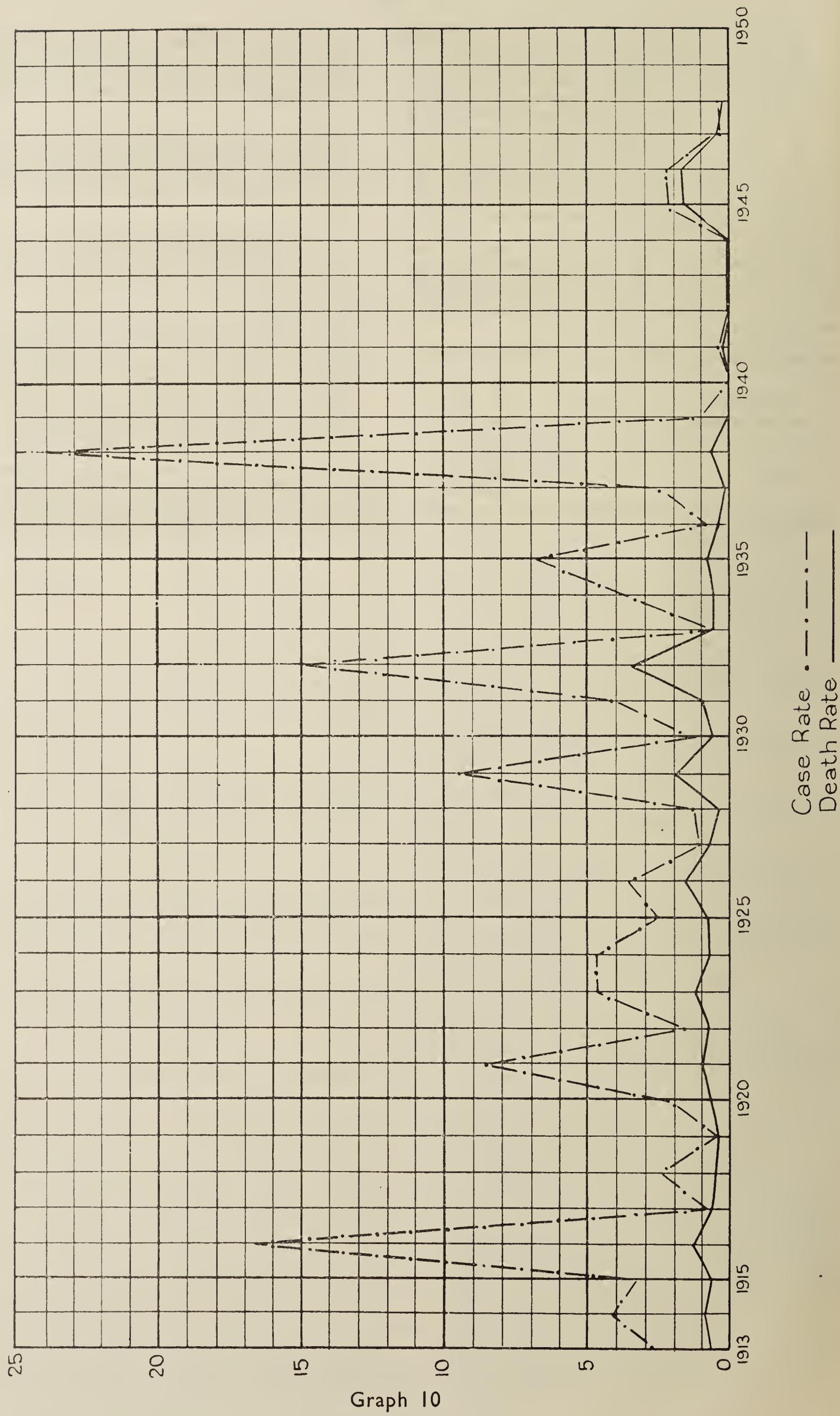
(2) *L.W.* (M.), aet 17 years, referred by the N.S.W. Society for Crippled Children, has had recurrent attacks of Osteomyelitis. He is continuing a correspondence course in Accountancy arranged by the Council, and at the same time is working with an electrical firm when his health permits.

(3) *N.F.* (F.), aet 15 years, was referred by the N.S.W. Society for Crippled Children for clerical training at a Business College. This girl has marked deformity due to an extra hemi vertebra. She is making good progress with her course.

(4) *W.W.* (M.), aet 19 years, had poliomyelitis at the age of 4 years, and recurrent attacks of osteomyelitis. He was anxious to enter the Hawkesbury Agricultural College, and at the request of the Far West Children's Health Scheme, the Council financed his accommodation and fees while he first studied for his Intermediate Certificate. He passed this examination (1948) and has commenced at the Agricultural College, where his fees and books will be paid for under the Vocational Training grant.

Of the remaining five trainees, one has a position as a trained hairdresser, another completed her business course but had a cerebral haemorrhage a few months later, two ceased training owing to psychological difficulties, and one ceased to need financial assistance when his people won a lottery.

INFANTILE PARALYSIS  
Annual Death Rate and Case Rate per 100,000 of the Population in New South Wales, 1913-1948.



## B—PUBLIC HEALTH ADMINISTRATION.

## REPORT OF THE GOVERNMENT ANALYST FOR THE YEAR ENDED 31st DECEMBER, 1948.

## Staff.

<i>Government Analyst.</i> —Harold B. Taylor, M.C., V.D., D.Sc., F.I.C., F.A.C.I.	A.A.C.I.; John Plowman, A.S.T.C., A.A.C.I.; J. W. G. Neuhaus, A.S.T.C., A.A.C.I.; G. E. Whiteman, B.Sc.
<i>Second Government Analyst.</i> —Arthur D. Dibley, A.S.T.C., A.A.C.I.	<i>Laboratory Assistants.</i> —Victor Williams; John A. Horan, H.D.D.; Ronald McDonough.
<i>Senior Assistant Government Analyst.</i> —Robert G. O'Brien, A.S.T.C., F.A.C.I.	<i>Laboratory Assistants-in-training.</i> —B. Neill, N. Piper.
<i>Analysts.</i> —Ernest S. Ogg, B.Sc. (Hon.), A.A.C.I.; William F. Fisher, A.S.T.C., A.A.C.I.; Thomas A. McDonald, A.S.T.C., A.A.C.I.; Anthony Dadour, B.Sc.; Lister Clark, A.S.T.C.,	<i>Laboratory Attendant.</i> —Ivan Ratcliffe.

*Shorthandwriter and Typist.*—Marie Kemp.

*Office Assistants.*—Vera Spiers, Margaret Ryan.

The number of samples examined in the Chemical Laboratory during the year 1948 amounted to 26,433, comprising 23,424 samples submitted in connection with the administration of the Pure Food Act, 2,992 samples examined for the Public Services of the State, and 17 samples examined for military authorities.

*Milk.*—The milks examined for the purposes of the Pure Food Act totalled 15,925, including 7,638 samples collected in the Metropolitan Area by Food, Municipal and Shire Inspectors,

3,304 samples collected by the same authorities in country districts, and 4,983 samples submitted by the Milk Board.

Of the total number of milks collected in the metropolitan area, 2.15 per cent. contravened the standard, while 4.6 per cent. of those collected in the country, and 3.48 per cent. of the samples submitted by the Milk Board failed to conform.

The following table gives particulars of the districts of collection and the kind and proportion of adulterations found:—

District of collection .....	Metropolitan Area.	Country Districts.		Submitted by Milk Board.	Total.	
Number of milk samples collected .....	7,638	3,304		4,983	15,925	
Number and proportion of adulterated samples—	No.	Per cent.	No.	Per cent.	No.	Per cent.
Deficient in milk-fat .....	53	0.69	112	3.38	67	1.34
Contained added water .....	101	1.32	47	1.42	101	2.02
Deficient in milk-fat and contained added water .....	10	0.13	...	...	5	0.1
Contained added water and quantity of rust .....	1	0.01	...	...	1	0.02
Total adulterations .....	165	2.15	159	4.6	174	3.48
					498	3.11

The samples other than milk submitted in connection with the administration of the Pure Food Act amounted to 7,499, of which 595 were found to be adulterated or falsely described.

The following table gives particulars of the whole of the food and drug adulterations recorded:

Nature of Sample.	Number of Adulterated Samples.	Particulars of Adulteration.	Nature of Sample.	Number of Adulterated Samples.	Particulars of Adulteration.
Almond oil shampoo.....	1	Incorrectly labelled.	Clove cordial .....	1	Incorrectly labelled.
Arrowroot .....	1	Unfit for human consumption.	Cocktail cordials, drinks, etc.		Contained artificial essence and added gum.
Baking powder .....	2	Unsuitable for sale.	" " " " .....	1	Incorrectly labelled.
Beer, waste .....	1	No methyl violet present.	Coffee and chicory essence...	1	Found to be nicotine sulphate.
Black currant fruit juice cordial.	1	Incorrectly labelled.	Cream .....	1	Deficient in milk-fat.
Bread .....	104	Physical characteristics unsatisfactory.	Dripping .....	1	Unpleasant odor and contained proportion of dirt.
,, Wheatmeal .....	9	Deficient in crude fibre.	Fish, fresh .....	1	Unfit for human consumption.
,, Wholemeal .....	7	Deficient in crude fibre.	,, tinned .....	8	Unfit for human consumption.
,, Brown .....	15	Deficient in crude fibre.	,, " .....	3	Unsuitable for sale.
,, White .....	1	Excess moisture.	,, " .....	3	Proportion of tins slightly blown.
Breakfast food .....	2	Incorrectly labelled.	Fish paste .....	4	Wrongly labelled.
,, " .....	1	Unsuitable for household use.	,, .....	1	Proportion of tins blown.
Brine .....	4	Found to contain foreign matter and impurities.	Fish oil .....	1	Found to contain grains of sand.
Butter .....	1	Rancid and unsuitable for table use.	Fruit salad, preserved .....	1	Found to be mineral oil.
,, .....	1	Excess water and deficient in milk-fat.	,, .....	2	Packed in dirty jars.
Caramel flavoured cordials	1	Incorrectly described.	,, .....		Unsuitable for food.
Cherries, glace .....	2	Made from damaged fruit.	Ginger ale .....	1	Incorrectly labelled.
Cherry drink .....	1	Contained synthetic flavouring.	,, .....	1	Found to contain saccharin.
Chocolates .....	1	Mouldy and unfit for human consumption.			

Nature of Sample.	Number of Adulterated Samples.	Particulars of Adulteration.	Nature of Sample.	Number of Adulterated Samples.	Particulars of Adulteration.
Grape fruit cordial .....	2	Contained citrus flavouring essence.	Passionfruit cordials .....	1	Deficient in fruit juice and contained synthetic flavouring.
Honey .....	1	Rancid odour and taste derived from paper sealing the jar.	„ „ .....	1	Contained synthetic flavouring.
„ .....	1	Packed in dirty container	Pastry (apple pie) .....	1	Unsuitable for human consumption.
Icing sugar .....	1	Excess cornflour.	Pastry mixture .....	1	Prepared from inferior fat.
Weak tincture of iodine .....	1	Deficient in iodine, excess potassium iodide and found to be perfumed	Pears, preserved .....	1	Packed in dirty jars,
Jams .....	17	Deficient in fruit.	Peas, canned .....	4	Unsuitable for food.
„ .....	1	Incorrectly labelled.	„ „ .....	2	Artificially coloured.
„ .....	1	High P <sub>2</sub> O <sub>5</sub> content.	Pickles—		Found to be processed peas.
Kola .....	6	Incorrectly labelled.	Savory onions .....	4	Contained excessive colouring.
„ .....	2	Found to contain saccharin.	Mustard pickles .....	2	Found to contain saccharin.
Laxative tablets .....	3	Wrongly labelled.	Pineapple cordials, drinks, etc.	1	Contained artificial pineapple essence and added gum.
Lemon cordials, drinks, etc.	11	Found to contain saccharin.	„ „ „ .....	1	Contained artificial flavouring.
„ „ „ .....	1	Deficient in fruit juice.	„ „ „ .....	1	Had a bitter and deteriorated flavour.
„ „ „ .....	4	Contained added organic acid.	„ „ „ .....	1	Contained excess preservative.
„ „ „ .....	2	Contained lemon essence and added gum.	Potato chips .....	1	Unfit for sale as food.
„ „ „ .....	2	Deficient in citric acid and contained excess preservative.	Quinces, preserved .....	1	Unsuitable for food.
„ „ „ .....	1	Deficient in citric acid.	Raspberry flavoured cordial —imitation.	1	Contained excess preservative and colouring matter and incorrectly labelled.
Lemon flavouring essence...	1	Two preservatives used.	Ration, military .....	1	Unfit for food.
Lemon flavouring essence, imitation.	1	Preservatised with salicylic acid.	Sarsparilla cordial .....	1	Incorrectly labelled.
Lime cordials, drinks, etc....	1	Incorrectly labelled.	Soap, pure castile .....	1	Not made from olive oil.
„ „ „ .....	1	Contained proportion of dirt.	„ toilet .....	1	Deficient in fatty acids.
„ „ „ .....	1	Found to contain saccharin.	„ „ .....	1	Excess alkalinity.
Meat extract .....	1	Deficient in fruit juice.	Spirits—		
Meat, smoked roll .....	1	Contained lemon essence.	Rum .....	3	Contained added water.
„ tinned (including meat and vegetables, soups, etc.).	49	Contained added organic acid.	Overproof rum .....	1	Found to be underproof.
„ fresh .....	1	Contained excess preservative and incorrectly labelled.	Gin .....	1	Contained added water.
„ .....	6	Found to be putrid.	Advocat .....	1	Not labelled in accordance with the regulation.
„ minced .....	60	Artificially coloured.	Overproof rum (Licensing Inspectors) .....	1	Found to be underproof.
„ sausages .....	119	Physical characteristics unsatisfactory.	Sugar .....	1	Contained small amount of common salt.
„ tripe .....	3	Contaminated and unfit for food.	Tea .....	1	Dirty in appearance and mouldy taste.
„ .....	11	Illegally preservatized.	Tomato sauce .....	14	Excessive mould count.
Medicine .....	1	Excess of permitted preservative.	„ .....	1	Artificially coloured.
Milk, fresh .....	2	Illegally preservatized.	„ .....	1	Excessive mould count and artificially coloured.
„ .....	232	Excess of permitted preservative.	„ .....	1	Excessive mould count and deficient in non-sugar organic tomato solids.
„ .....	249	Illegally preservatized.	Vanilla essence .....	1	Incorrectly labelled.
„ .....	15	Did not comply with limits of pH.	Vinegar .....	2	Incorrectly labelled.
Orange cordials, syrups, drinks, etc.	1	Deficient in fruit juice and contained excess preservative.	Walnuts .....	12	Unfit for human consumption.
„ .....	5	Proportion of tins in process of deterioration.	Wine .....	1	Had fermented odour.
„ .....	2	Contained orange essence.	„ .....	1	Packed in dirty bottles; unfit for human consumption.
„ .....	1	Contained saccharin and excess preservative.			
„ .....	3	Contained excess preservative.			
„ .....	1	Deficient in fruit juice and contained excess preservative.			
„ .....	1	Proportion of tins in process of deterioration.			
Orange and lemon fruit juice cordial.	1	Contained orange and lemon essence and added gum.	Total adulterations ...	1,093	

*Samples submitted for the Public Services of the State:*  
The samples submitted for the Public Services of the State (exclusive of those examined for Defence purposes) amounted to 2,992.

*Subsidised Institutions* required the examination of 444 samples, consisting of foods, human hair and nails, drugs, paint flakes, cerebrospinal fluid, etc.

The *Government Stores Department* submitted 312 samples for examination, including soaps, disinfectants, lubricants, inks, cleansers, drugs and pharmacopoeial substances.

Police Authorities forwarded 801 exhibits for examination in connection with criminal investigations, and 15 in regard to the administration of the Police Offences Amendment (Drugs) Act. The following table gives details of the various charges investigated:

Particulars of Charge.	Number of Exhibits.
<b>CRIMINAL INVESTIGATIONS.</b>	
Arson .....	4
Attempted abortion .....	8
Break, enter and steal .....	10
Break, enter with intent to steal .....	3
Driving under influence .....	2
Driving under influence and manslaughter .....	2
Hit-run offences .....	2
Indecent assault .....	4
Manslaughter .....	5
Murder .....	1
Negligent driving .....	6
Occasioning actual bodily harm .....	2
Rape .....	1
Stealing .....	11
Suspected poisoning .....	27
Uncertified deaths .....	626
Miscellaneous .....	87
	<b>801</b>
<b>POLICE OFFENCES AMENDMENT (DRUGS) ACT.</b>	
Morphine .....	14
Nembutal .....	1
	<b>816</b>

*Coroners' Inquiries.*—Coroners required the examination of exhibits in connection with 233 deaths which formed the subject of police investigation. The following table gives particulars of the results of chemical examination:

Nature of Exhibit.	Result of Chemical Examination.	Number of Deaths.
Viscera (stomach and contents, intestines and solid organs).	Negative for poison .....	37
" " " " "	Alcohol .....	1
" " " " "	A.P.C. .....	1
" " " " "	Arsenic .....	8
" " " " "	Barbitone and morphine .....	1
" " " " "	Barbiturate .....	3
" " " " "	Barbituric acid .....	2
" " " " "	Chloral hydrate .....	1
" " " " "	Chloral hydrate and potassium bromide .....	2
" " " " "	Cresol .....	1
" " " " "	Cyanide .....	4
" " " " "	Dilantin (phenytoin sodium) .....	1
" " " " "	Iron .....	1
" " " " "	Lead .....	2
" " " " "	Nembutal .....	1
" " " " "	Nembutal and pethidine .....	1
" " " " "	Nicotine .....	5
" " " " "	Paraldehyde .....	2
" " " " "	Phenobarbital .....	1
" " " " "	Phenobarbital, chloral hydrate and potassium bromide .....	1
" " " " "	Salicylic acid .....	1
" " " " "	Strychnine .....	13
" " " " "	Strychnine and brucine .....	1
" " " " "	Strychnine and morphine .....	1
" " " " "	Sulphadiazine .....	1
Viscera and blood	Negative for poison; positive for alcohol .....	7
" " " " "	Negative for poison and alcohol .....	3
" " " " "	Negative for poison; positive for carbon monoxide .....	1
" " " " "	Positive for nembutal and alcohol .....	1
Viscera and urine	Positive for arsenic .....	1
" " " " "	Positive for strychnine and alcohol .....	1
" " " " "	Positive for sedormid and alcohol .....	1
" " " " "	Positive for morphine and alcohol .....	1
" " " " "	Negative for poison; positive for alcohol .....	3
" " " " "	Negative for poison; positive for barbiturate .....	1
" " " " "	Positive for barbiturate .....	1
" " " " "	Positive for pentobarbital sodium and alcohol .....	1
" " " " "	Negative for poison and alcohol .....	2
Viscera, urine and blood	Positive for barbiturate .....	1
Blood	Positive for alcohol .....	52
" " " " "	Negative for alcohol .....	15
" " " " "	Positive for carbon monoxide and alcohol .....	2
" " " " "	Negative for carbon monoxide .....	2
" " " " "	Positive for alcohol and positive for drowning .....	1
Urine	Positive for carbon monoxide .....	4
Fluid	Positive for alcohol .....	31
Stomach washings	Negative for alcohol .....	2
	Positive for alcohol .....	1
	Positive for strychnine .....	1
	Total Deaths .....	233

*State Municipal and Departmental Authorities* submitted 486 samples of water in connection with the supervision and chemical treatment of water supplies and swimming pools in country districts, and 168 samples for examination for the purpose of checking the efficiency of sewerage installations and the control of the discharge of trade wastes and drainage into public places.

*Industrial Hygiene Authorities* submitted 344 samples for examination in connection with claims under the Workers' Compensation Act, the diagnosis of illness due to occupational causes, conditions of employment in workshops and factories, the ventilation of public halls and theatres, etc.

*Miscellaneous Authorities* submitted 189 samples for examination, including bedding material, foodstuffs, lubricants, drugs, olive oil, etc.

*Military Authorities* submitted 17 samples for examination, including foodstuffs, water sterilising tablets, etc.

TABLE I.

Samples examined during the Year 1948, for the purposes of the Administration of the Pure Food Act, 1908.

Nature of Sample.	Submitted by.	Number Examined.	Number Adulterated or Falsely Described.
Acetylsalicylic acid tablets .....	Food Inspectors .....	2	...
Aerated water .....	" .....	1	...
Almond oil shampoo .....	" .....	1	1
Ammonium chloride pellets .....	" .....	1	...
A.P. powders .....	" .....	1	...
Arrowroot .....	" .....	1	1
Asparagus cuts .....	" .....	1	...
Baking powder .....	" .....	2	2
Beer .....	" .....	2	...
Beer waste .....	" .....	1	1
Biscuits, chocolate .....	" .....	1	...
Black current fruit juice cordial .....	" .....	2	1
Bread .....	" .....	298	136
Breakfast foods, cereals, etc. ....	" .....	28	3
Brine .....	" .....	4	4
Butter .....	" .....	19	2
Cabbages .....	" .....	1	...
Can washing solution .....	Milk Board Inspectors .....	4	...
Caramel flavour cordial .....	Food Inspectors .....	1	1
Catarrh treatment .....	" .....	1	...
Cherries, glace .....	" .....	1	1
Cherry drinks .....	" .....	2	1
Chocolates .....	" .....	2	1
Citrus cordials, drinks, etc. ....	" .....	2	...
Cleanser, liquid .....	" .....	1	...
Clove cordial .....	" .....	1	1
Cocktail drinks, cordials, etc. ....	" .....	2	2
Coffee and chicory essence .....	" .....	2	...
Coffee flavoured cordial .....	" .....	1	...
Confectionery .....	" .....	3	...
Corn, sweet .....	" .....	1	...
Cream .....	" .....	105	1
Cream .....	Milk Board .....	110	...
Creaming soda .....	Food Inspectors .....	2	...
Custard imitation cordial .....	" .....	1	...
Dessert base .....	" .....	1	...
Diabetes remedy .....	" .....	2	...
Disinfectants .....	" .....	4	...
Dripping .....	" .....	1	1
Figs, syrup of .....	" .....	1	...
Fish, fresh, smoked, tinned, etc. ....	" .....	70	19
Fish paste, tinned .....	" .....	5	2
Fish oil .....	" .....	1	1
Flour .....	" .....	8	...
Fruit cup cordials, drinks, etc. ....	" .....	4	...
Fruit squash cordials, drinks, etc. ....	" .....	2	...
Fruit salad .....	" .....	4	3
Frying pans .....	" .....	2	...
Ginger ale .....	" .....	3	2
Ginger beer .....	" .....	1	...
Grape fruit cordials, drinks, etc. ....	" .....	3	2
Honey .....	" .....	4	2
Ice cream .....	" .....	28	...
" mixture .....	" .....	5	...
Ice block freeze .....	Municipal Inspector .....	1	...
Icing mixture .....	Food Inspectors .....	2	1
Iodine, weak tincture of .....	" .....	2	19
Jam .....	" .....	53	19
Jelly crystals .....	" .....	21	...
Kola drinks .....	" .....	14	8
Laxative tablets .....	" .....	3	3
Lemon cordials, drinks, etc. ....	" .....	63	23
Lemon essence .....	" .....	3	2
Lime cordials, drinks, etc. ....	" .....	9	5
Linen, white .....	" .....	1	...
Margarine .....	" .....	2	...
Mayonnaise .....	" .....	1	...
Mcal .....	" .....	1	...
Meat extract .....	" .....	1	1
Meat, smoked roll .....	" .....	1	1
" pies .....	" .....	12	49
" tinned (including meat and vegetables, soups, etc.) .....	" .....	58	...
" fresh .....	" .....	649	7
	Municipal Inspectors .....	1	...
	Food Inspectors .....	1,910	54
	Municipal Inspectors .....	108	6
	Food Inspectors .....	2,730	112
	Municipal Inspectors .....	104	7
	Food Inspectors .....	519	14
	Municipal Inspectors .....	2	...
	Food Inspectors .....	89	...

TABLE I—*continued.*

Nature of Sample.	Submitted by.	Number Examined.	Number Adulterated or Falsely Described.
Medicine .....	" .....	3	1
Menthoids .....	" .....	1	...
Methyl violet .....	" .....	1	...
Methyl violet solution .....	" .....	1	...
Liquid taken from milk cans .....	" .....	4	...
Milk, condensed .....	" .....	3	...
" powdered .....	" .....	3	...
" fresh .....	Food Inspectors, Metropolitan Districts.	6,282	89
" .....	Municipal and Shire Inspectors, Metropolitan Districts.	1,356	71
" .....	Food Inspectors, Country Districts.	1,225	63
" .....	Municipal and Shire Inspectors, Country Districts.	2,079	97
" Mustard .....	Milk Board .....	4,983	178
Olive oil .....	Food Inspectors .....	1	...
Orange drinks, cordials, etc. ....	" .....	4	...
Orange, concentrated .....	" .....	45	14
Orange and Lemon Cordials, Drinks, etc. ....	" .....	1	...
Passionfruit Cordials, Drinks, etc. ....	" .....	4	1
Pastry (Apple Pie) .....	" .....	6	2
Pastry Mixture .....	" .....	1	1
Peanut butter .....	" .....	1	1
Pears, fresh .....	" .....	1	...
" preserved .....	" .....	3	...
Peas, canned .....	" .....	15	2
Pepper .....	" .....	9	...
Peroxide vanishing cream .....	" .....	1	...
Phenacetin .....	" .....	1	...
Pickles .....	" .....	7	6
Pineapple, preserved .....	" .....	1	...
Pineapple cordials, drinks, etc. ....	" .....	13	4
Potatoes .....	" .....	1	...
Potato chips .....	" .....	1	1
Quinces, preserved .....	" .....	1	1
Raspberry cordials, drinks, etc. ....	" .....	3	1
Army operation ration .....	" .....	1	1
Reducing medicines .....	" .....	2	...
Salt .....	" .....	1	...
Sarsaparilla drinks .....	" .....	2	1
Soaps .....	" .....	14	3
Soda squash drink .....	" .....	1	...
Sodium benzoate .....	" .....	1	...
Sodium bicarbonate .....	" .....	1	...
Summer and temperance drinks .....	" .....	3	...
Spirits .....	Metropolitan Licensing Inspectors .....	111	6
" .....	Food Inspectors .....	1	1
Sugar .....	Food Inspectors .....	3	1
" raw .....	" .....	1	1
" invert .....	" .....	1	...
Sulphadiazine tablets .....	" .....	9	...
Tablets, medicinal .....	" .....	2	...
Tea .....	" .....	4	1
Tomato juice .....	" .....	2	...
" puree .....	" .....	2	...
" sauce .....	" .....	31	16
Tooth paste .....	Municipal Inspectors .....	1	1
Vanilla essence .....	Food Inspectors .....	3	...
Vinegar .....	" .....	2	1
Walnuts .....	" .....	6	2
Wine .....	" .....	12	12
" .....	Metropolitan Licensing Inspector .....	26	2
Worm syrup .....	Food Inspectors .....	1	...
Total .....		28,424	1,093

TABLE II—*continued.*

Authority Submitting.	Nature of Sampic.	Number of Samples.
Government Stores Department...		
	Acetic acid .....	4
	Aconite liniment .....	2
	Alcohol, absolute .....	15
	Ammonium acetate .....	1
	Ammonium carbonate .....	1
	Ammonium chloride .....	2
	Barium sulphate .....	60
	Belladonna, concentrated tincture of .....	5
	Boric acid .....	1
	Caffeine, pure .....	1
	Calcium chloride, pure .....	1
	Calcium lactate .....	1
	Camphorated oil .....	2
	Cardomom, concentrated compound tincture of .....	1
	Cascara, liquid extract of .....	3
	Cascara tablets .....	1
	Catechu, tincture of .....	1
	Chalk, French .....	1
	Chalk, precipitated .....	2
	Chlorodyne .....	2
	Chloroform .....	10
	Cleaning powder .....	1
	Cochicicum, liquid extract .....	2
	Cotton wool .....	2
	Digitalis, concentrated tincture of .....	1
	Disinfectants .....	21
	Ephedrine hydrochloride .....	1
	Ergot, liquid extract of .....	5
	Ether .....	10
	Fehlings solution No. 1 .....	1
	Ferrous phosphate, compound syrup of .....	1
	Ferrous sulphate .....	2
	Insecticide .....	2
	Geisemann, tincture of .....	1
	Glycerine and borax .....	3
	Glyceryl trinitrate .....	1
	Guaiacum, tincture of .....	3
	Gum acacia, powdered .....	1
	Hydrastis, liquid extract of .....	1
	Hydrochloric acid .....	2
	Hyoscyamus, liquid extract of .....	1
	Hyoscyamus, concentrated tincture of .....	1
	Liver injection .....	1
	Ink .....	6
	Iodine, weak solution of .....	5
	Iodine, strong solution of .....	3
	Ipecacuanha, tincture .....	5
	Isothiamin .....	1
	Lactic acid .....	1
	Lavender, strong solution .....	1
	Lubricants .....	5
	Magnesium carbonate, heavy .....	4
	Magnesium carbonate, light .....	1
	Magnesium sulphate .....	2
	Mercury, ammoniated, dilute ointment of .....	1
	Morphine hydrochloride, solution .....	3
	Nux vomica, liquid extract of .....	3
	Nux vomica, tincture of .....	1
	Opium, tincture of .....	4
	Opium, concentrated compound tincture of .....	4
	Paint .....	3
	Paraldehyde .....	8
	Pepsin .....	1
	Phenacetin .....	1
	Phenazone .....	1
	Phenobarbitone tablets .....	1
	Plaster of Paris bandages .....	1
	Potassium bicarbonate .....	1
	Potassium hydroxide .....	2
	Potassium iodide .....	2
	Potassium nitrate .....	3
	Procaine and adrenaline .....	1
	Quinine sulphate tablets .....	1
	Soap .....	33
	Sodium carbonate .....	2
	Sodium hydroxide, deci-normal solution of .....	1
	Sodium nitrate .....	1
	Sodium nitrite .....	2
	Starch .....	1
	Stilboestrol tablets .....	1
	Strychnine hydrochloride .....	1
	Sulphadiazine tablets .....	1
	Sulphamerazine tablets .....	1
	Sulphanilamide, powdered .....	4
	Turpentine .....	2
	Urea .....	1
	Water, distilled .....	1
	Water, triple distilled .....	1
	Xylool .....	1
	Zinc cream .....	1
	Criminal Investigations .....	816
	Human viscera, blood, etc. ....	233
Police Department .....		
Municipal and Departmental .....		
Industrial Hygiene Authorities ...		
Industrial Hygiene Authorities ...		

TABLE II.

Samples examined during the year 1948, for the Public Services of the State.

Authority Submitting.	Nature of Sample.	Number of Samples.
Subsidised Institutions.....		
	Blood .....	5
	Bread .....	22
	Cake .....	1
	Cerebrospinal fluid .....	1
	Cleaning powder .....	1
	Cleaning fluid .....	1
	Ether .....	3
	Faeces .....	1
	Flour .....	1
	Foodstuffs .....	9
	Ginger, preserved .....	1
	Hair, human .....	27
	Meat, fresh .....	218
	Milk, human .....	36
	Milk, fresh .....	19
	Nails, human .....	21
	Paint flakes .....	3
	Procaine and adrenaline .....	1
	Rib, human .....	1
	Skin .....	1
	Stomach contents .....	11
	Tablets .....	1
	Urine .....	54
	Viscera, human .....	3
	Vomit .....	2

TABLE II—continued.

Authority Submitting.	Nature of Sample.	Number of Samples.	Authority Submitting.	Nature of Sample.	Number of Samples.
Miscellaneous Authorities .....	Rubber solution .....	4		Mud .....	1
	Solvent .....	2		Mustard, prepared .....	1
	Tissue .....	1		Nails, human .....	7
	Urine .....	92		Olive oil .....	2
	Wool .....	2		Orange juice, pure .....	1
	Zinc Beryllium .....	1		Pastry mixture .....	1
	Arthritis cure .....	1		Pyleosil ampoules .....	2
	Biscuits .....	2		Sago .....	1
	Blood .....	4		Salad dressing .....	2
	Bread .....	3		Sand .....	2
	Breakfast food .....	1		Sanitary chemicals .....	2
	Cake .....	2		Sardines .....	1
	Caramel sauce .....	1		Sausage easing .....	1
	Cherries in syrup .....	1		Sodium chloride .....	1
	Colouring matter .....	2		Spaghetti .....	5
	Confectionery .....	1		Stomach washings .....	4
	Custard powder .....	1		Tea .....	1
	Deposit from tannery machine .....	1		Tissue, human .....	1
	Dessert base .....	1		Tooth paste .....	1
	Disinfectant .....	1		Urine .....	16
	Floek .....	55		Vanilla essence .....	1
	Flour, pancake .....	1		Vegetable extract .....	1
	Flour, soy bean .....	1		Vomit .....	2
	Flour, self-raising .....	4		Water .....	2
	Frankfurts .....	1		Wine .....	1
	Garbage, processed .....	1	Department of the Army .....		
	Hair, human .....	9		Baby food .....	1
	Jute caddies .....	3		Baking powder .....	2
	Loganberry flavoured syrup .....	1		Caramel .....	1
	Lubricants .....	18		Meat extract .....	2
	Macaroni .....	4		Milk powder .....	3
	Mandelic acid .....	1		Rennet, essence of .....	1
	Meal .....	2		Sugar .....	1
	Meats, tinned .....	1		Water sterilising powder .....	5
	Medicine .....	2		Water sterilising tablets .....	1
	Mercurprin ampoules .....	1			
	Milk deposit .....	1			
	Milk, human .....	1			
		1			
				Total .....	3,009

**PURE FOOD ACT, 1908-1944.**

Report of the Chief Inspector on the General Administration of the Pure Food Act, 1908-1944, for the year ended  
31st December, 1948.

### Staff.

Chief Inspector Philip C. Williams, M.R. San. I., one Senior Inspector, ten Metropolitan Inspectors and two Country Inspectors.

I herewith submit particulars of the work performed by the Pure Food Branch for the year ended 31st December, 1948.

This work includes the supervision of all places where food or drugs are prepared, stored or exposed for sale, together with the incidental duties required to be carried out in order to secure the wholesomeness, cleanliness and freedom from contamination of food and drugs, and compliance with the legal provisions as set out in the Act and Regulations thereunder.

**Milk.**—7,480 samples of milk were purchased for analysis by departmental officers, and 3,471 by local authorities, making a total of 10,951 for the year; 286 were not in accordance with the standard; 35 warnings were issued and 251 traders were prosecuted, the fines and costs imposed amounting to £835 10s.

*Meat (including tripe).*—6,401 samples were taken for analysis. 74 warnings were issued and 224 prosecutions were carried out, an amount of £828 1s. being collected in fines and costs.

*Cordials.*—193 samples were taken for analysis, 9 warnings were issued, and 19 prosecutions were launched. Fines and costs amounted to £71.12s. collected.

*Bread.*—Special attention has been paid to the quality of bread; 299 samples were taken for analysis, 14 warnings were issued, and 15 traders were prosecuted, the fines and costs, amounting to £71 18s., were collected.

*Poultry.*—The arrangement with the poultry-selling agents at the Municipal Poultry Markets, by which poultry is examined, resulted during the year in the condemnation as to suitability for human consumption of 8,447 head. It is probable that many of these birds would have found their way to certain food channels but for the action taken.

*Seizure and Destruction of Food.*—During the year it was found necessary to seize a large quantity of foodstuffs. The seizure comprised 53,500 tins, 4,138 bottles and packages, in addition to 81 tons of loose food. These were destroyed under departmental supervision.

*General Breaches of the Act and Regulations.*—Eighty-one prosecutions were instituted, resulting in collection of penalties amounting to £308 16s. Breaches included smoking on food premises, unlabelled oysters, exposed bread and other foods, animals allowed on food premises, premises not kept free from mice, cockroaches or flies, no methyl violet in drip trays, and unclean vehicles; 12,176 food premises were inspected in 1948.

*Medical Treatment by other than Qualified Persons.*—As usual, many inquiries were made into allegations concerning the treatment of the sick by unqualified persons, and the subsequent action taken by the department resulted in certain charges being effected in the public interest.

*Sale of Poisonous Substance in Food Containers.*—Three prosecutions were launched and fines and costs amounting to £24 4s. were obtained against offenders for selling poisonous substances in food containers.

*Legal Proceedings.*—The attached summary indicates the amount of work carried out in prosecuting offenders for breaches of the Pure Food Act and Regulations thereunder. Officers of the Branch were concerned with the prosecution of the 528 offenders, upon whom fines and costs were imposed amounting to £1,991 12s.

*Survey in regard to the bacteriological condition of eating and drinking utensils under the existing cleansing methods is being carried out. An endeavour has been made to obtain a representative collection of utensils from all types of establishments. The survey is still in progress. On the completion of this work the existing Regulations under the Pure Food Act in connection with the washing of drinking utensils will be reviewed.*

Attached is a summary of the number of samples taken during the year, foodstuffs destroyed, inspections made, prosecutions launched with fines and costs imposed.

TABLE I.

## FOOD AND DRUG SAMPLES.

Summary of Work Performed by Pure Food Officers during the Year ended 31st December, 1948.

Samples of Milk.	Samples taken by Departmental Officers.	Samples taken by Municipal and Shire Council Inspectors.	Total.
No. of samples taken from all parts of the State.....	7,480	3,471	10,951
No. of samples below standard .....	202	84	286
No. of Warnings .....	23	12	35
No. of Prosecutions .....	179	72	251
Amount of fines and costs .....	£ s. d.	£ s. d.	£ s. d.
	632 2 0	203 8 0	835 10 0

## Food and Drugs other than Milk—

	Total
No. of samples taken from all parts of the State.....	7,533
No. of Prosecutions .....	255
Amount of fines and costs .....	£ s. d.
	957 9 0

*Food unfit for consumption seized and destroyed.*—The seizures comprised over 81 tons, also 53,500 tins and 4,138 bottles and packages of assorted foodstuffs; 8,447 head of poultry were destroyed.

## Inspection of premises used for the preparation, sale and storage of food.—

No. of premises inspected in all parts of the State .....	12,176
No. of Prosecutions .....	13
Amount of fines and costs .....	£ s. d.

No. of Prosecutions .....	81
Amount of fines and costs .....	£ s. d.

No. of Prosecutions .....	81
Amount of fines and costs .....	£ s. d.

## General Breaches of the Act and Regulations—

No. of Prosecutions .....	81
Amount of fines and costs .....	£ s. d.

Amount of fines and costs .....	308 16 0
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Particulars of samples of food (other than milk) and drugs taken for analysis by Departmental Officers during 1948.

Sample.	No. of Samples.	Warn- ings.	Prosecu- tions.	Fines and Costs.
Baking powder .....	2	...	...	£ s. d.
Beer .....	19	...	...	...
Butter .....	19	...	1	11 8 0
Bread .....	299	14	15	39 16 0
Cream .....	104	...	1	...
			pending	
Coffee and chicory .....	2	...	...	...
Confectionery .....	1	...	...	...
Condiments .....	42	13	1	3 8 0
Cordials.....	193	9	19	71 18 0
Dripping .....	1	...	...	...
Drugs .....	36	...	...	...
Disinfectants .....	4	...	...	...
Essences .....	4	...	...	...
Fruit, preserved .....	5	...	...	...
Fish .....	63	...	...	...
Flour .....	9	...	...	...
General .....	37	...	...	...
Ginger .....	4	...	...	...
Honey .....	3	...	...	...
Ice Cream .....	36	...	...	...
Icing mixture .....	2	...	...	...
Jam .....	52	...	...	...
Jelly crystals .....	20	...	...	...
Margarine .....	2	...	...	...
Meat (including tripe) .....	6,401	74	224	828 1 0
Pepper .....	9	...	3	...
Spirits, wine .....	124	1	3	(1 bond, 2 pending)
Salt .....	1	...	...	...
Soap .....	14	...	1	2 18 0
Sugar.....	5	...	...	...
Vinegar .....	6	...	...	...
Vegetables .....	17	...	...	...
Totals .....	7,533	111	255	957 9 0

## SEIZURES.

Particulars of Food seized as unfit for human consumption, and destroyed by Officers under the Pure Food Act during the period 1st January, to 31st December, 1948.

Article.	Tins.	Packets.	Bottles.	Tons.	Cwts.	Qrts.
Assorted foods .....	562	1,233	...	16	4	3
Biscuits .....	...	...	54	...	4	3
Beer .....	...	...	...	...	10	...
Butter .....	...	...	317	...	...	...
Condiments .....	...	...	...	5	4	2
Confectionery .....	13,094	...	...	...	...	...
Cheese .....	...	...	192	...	1	...
Cordials .....	...	...	10	...	...	...
Drugs .....	...	...	...	5	8	3
Fruit, dried .....	...	...	...	...	...	...
Fruit, preserved .....	...	2,332	...	19	18	3
Fish .....	21,460	...	...	...	5	1
Flour .....	...	...	...	...	11	...
Fruit pulp .....	...	...	...	8	10	2
Jam .....	...	...	...	12	...	...
Milk, condensed .....	18,384	...	...	12	16	...
Nuts .....	...	...	...	12	...	...
Poultry .....	...	8,447 (head).	...	...	...	...
Sugar .....	...	...	...	...	...	3
Tea .....	...	...	...	...	...	1

A total of 81 tons, 16 cwt., of assorted food and drugs; 53,500 tins, 1,233 packets and 2,905 bottles of the same and 8,447 head of poultry.

TABLE III.

Summary of Legal Proceedings by Officers of the Pure Food Branch during the year ended 31st December, 1948.

Prosecutions.	Fines and Costs.
Adulterated milk.....	£ s. d.
179	632 2 0
Adulterated food and drugs .....	957 9 0
Unclean premises .....	93 5 0
General breaches .....	308 16 0
528	1,991 12 0

Summary of Work carried out by Pure Food Officers under the Pure Food Act, 1908-1944, from the date of its operation, October, 1909, to 31st December, 1948.

Prosecutions.	Fines and Costs.
Number of premises inspected (353,387) .....	£ s. d.
2,685	14,053 9 0
General breaches of the Act .....	7,325 7,524 12 0
Milk samples (327, 161) .....	6,494 27,063 2 0
Food and drug samples (153,037)...	7,679 22,568 10 0
Food and drug seizures .....	427 1,828 17 0
Grand Totals .....	19,610 73,038 12 0

## INSPECTIONS.

Inspections in Country Districts during 1948, by Officers of the Pure Food Branch.

District.	No. of Inspections.
Albury .....	64
Armidale .....	22
Bathurst .....	18
Bellingen .....	22
Bland .....	6
Blue Mountains .....	9
Bombala .....	27
Broken Hill .....	27
Bulli .....	5
Burrangong .....	4

## INSPECTIONS—continued.

District.	No. of Inspections.	District.	No. of Inspections.
Byron .....	11	Singleton .....	23
Carrathool .....	13	St. Mary's .....	15
Casino .....	26	Tamworth .....	22
Cessnock .....	10	Taree .....	38
Cobar .....	28	Temora .....	11
Coff's Harbour .....	10	Tumut .....	45
Condobolin .....	24	Tweed .....	56
Cootamundra .....	66	Uralla .....	14
Coreen .....	6	Urana .....	28
Corowa .....	23	Wade .....	18
Culcairn .....	9	Walcha .....	20
Dubbo .....	67	Walgett .....	8
Dungog .....	34	Warrah .....	15
Forbes .....	35	Weedin .....	5
Gosford .....	40	Wingecarribee .....	13
Goulburn .....	56	Wingham .....	22
Glen Innes .....	44	Wollongong .....	142
Gloucester .....	46	Wyong .....	11
Grafton .....	54		
Griffith .....	16	Total Inspections—	
Gulgong .....	16	Country .....	2,129
Gunnedah .....	24	Metropolitan .....	10,047
Harwood .....	8		
Hay .....	26	Grand Total, Inspections .....	12,176
Inverell .....	38		
Kempsey .....	30	Prosecutions for dirty premises : 13.	
Kycamba .....	32	Amount of fines and costs : £93 5s. 0d.	
Kyogle .....	14		
Lake Macquarie .....	13		
Lachlan .....	1		
Leeton .....	10		
Lismore .....	8		
Lithgow .....	63		
Maclean .....	31		
Macleay .....	12		
Milthorpe .....	7		
Moree .....	17		
Mudgee .....	31		
Muswellbrook .....	27		
Nambucca .....	60		
Namoi .....	22		
Narrabri .....	23		
Narrandera .....	24		
Newcastle .....	209		
Nowra .....	19		
Nyngan .....	11		
Orange .....	52		
Parkes .....	34		
Peel .....	14		
Penrith .....	9		
Port Macquarie .....	28		
Queanbeyan .....	17		
Quirindi .....	31		
Scone .....	40		
		Total .....	81 308 16 0

## GENERAL BREACHES OF PURE FOOD ACT AND REGULATIONS.

## Particulars of Prosecutions.

Offence.	No.	Fines and Costs.
Smoking on food premises or during the handling of food for sale .....	12	£ s. d.
Sale of unlabelled oysters .....	15	36 16 0
Exposed bread and other foods .....	29	37 12 0
Animals allowed in food premises .....	3	62 2 0
Bread wrapped in newspaper .....	3	15 6 0
Refusing sample .....	3	8 0 0
Premises not kept free from mice .....	3	15 16 0
Premises not kept free from cockroaches .....	2	38 6 0
Premises not kept free from flies .....	2	13 16 0
Using chipped cups .....	2	20 6 0
Sale of poisonous substance in food containers .....	2	10 16 0
Unclean refrigerator .....	3	24 4 0
No methyl violet in drip trays .....	1	3 8 0
Meat sold not of nature demanded .....	1	1 10 0
Unclean vehicle .....	1	10 10 0
	81	10 8 0
Total .....		308 16 0

## ANNUAL REPORT OF THE ACTIVITIES OF THE SANITATION BRANCH DURING THE YEAR ENDED 31st DECEMBER, 1948.

## Staff.

*Chief Inspector.*—G. A. Garrow, M.R. San. I., T.P. Cert.

*Senior Inspector.*—Vacant. Seven Certificated Inspectors, two Licensed Surveyors and one Junior Clerk.

*Vacancies.*—Mr. Harrowsmith was appointed to the staff on 5th July, 1949, vice Mr. Horne appointed Senior Inspector, South Coast Health District; Mr. S. L. Parsons, Senior Inspector, Sydney, retired on 20th August, 1948; and Mr. Inspector C. L. E. Musgrove resigned to take a position as Chief Health Inspector to Gundrimba Shire Council.

Vacancies created by the retirement of Senior Inspector Parsons, the resignation of Inspector Musgrove and the appointment of Messrs. Turner and Way as Senior Inspectors respectively to the Mitchell and Tweed-Richmond Health Districts

have not been filled. Thus, there were four vacancies on the staff at 31st December, 1948. There is every prospect of these vacancies being filled during 1949.

## Country and Metropolitan Districts Routine and General Inspections, etc.

*Towns.*—Reinspections were made of four.

*Insanitary Buildings.*—Twenty-seven buildings were inspected and the respective local authorities were requested to cause necessary repairs or alterations to be carried out.

Shortage of housing accommodation made it inadvisable to recommend the issue of closing orders in other than extreme cases, consequently only four closing order certificates were recommended.

*Guest and Boarding Houses.*—Three were inspected and suitable action recommended where found necessary.

*Shop Premises.*—One hundred and thirteen shops were inspected and appropriate action taken.

*Hospitals, Institutions and Schools.*—Twenty-nine separate premises were inspected and necessary action recommended.

*Public Halls and Theatres.*—Twenty-nine inspections were made, and fourteen air tests were carried out in conjunction with an officer from the Division of Industrial Hygiene.

*Hotel Premises.*—Forty-one hotels were inspected and reports and recommendations thereon were forwarded to the controlling authority for necessary action.

*Swimming Pools.*—Seven inspections of pools, treatment plant and proposed sites were made and reports furnished thereon.

*Cattle Slaughtering Premises and Abattoirs.*—Twenty-four inspections of cattle slaughtering and thirteen inspections of abattoir premises were carried out.

The reports of the cattle slaughtering premises were forwarded to the Department of Agriculture for necessary action, such premises being now under the control of the Department of Agriculture.

*Noxious Trades.*—Five hundred and sixty-seven inspections and re-inspections of noxious trades premises were made and where found necessary repairs, etc., were required to be carried out.

In a few instances legal proceedings were instituted against the trader.

*Removal of Dead Stock from Flemington.*—Twelve thousand five hundred and twenty-two dead animals were removed from Flemington Sale and Trucking Yards and the abattoirs by a private firm to its knackery premises and in no case were complaints received in this office respecting these activities.

*Flock and Bedding Materials.*—Forty-one samples of flock and bedding material were obtained and seven mattresses and pillows purchased for examination.

Eighty-three inspections of premises were made and suitable action taken where necessary.

*Camps, Showgrounds, Cemeteries, etc.*—Sixteen inspections were made and where found necessary suitable action was recommended.

*Sale Yards and Proposed Sites.*—Inspections were made of six saleyards and suitable action recommended. No inspections of sites for proposed saleyards were made during 1948.

*Scavenging Districts, Sanitary Depots, Proposed Sites and Garbage Incinerators.*—Twelve descriptions and plans of proposed scavenging districts were examined, several of which were amended or recast in this office.

One hundred and ninety inspections of sanitary depots and garbage incinerators were made and where found necessary suitable action was taken.

Twenty-four proposed sites were inspected and those found unsuitable were not recommended.

*Sanitary Services.*—Eight investigations of sanitary services were made and where found warranted suitable action was taken.

One sanitary service was recommended and in due course was installed.

*Septic Tanks, Sewage Treatment Works and Private Water Supplies.*—One thousand five hundred and sixty-two plans of proposed septic tanks were examined and reported upon and where found necessary were either amended or not recommended for approval. One thousand two hundred and fifty-three sites were inspected and a number were found unsuitable, in consequence of which approval to instal the septic tank could not be recommended.

Seventy-seven existing septic tanks and treatment works, including effluent disposal areas, were inspected and suitable action recommended where found necessary.

Nine investigations were made respecting the source and storage of water supplies and thirty-six samples of water were procured for examination. Suitable action was recommended where found necessary.

*Unhealthy Building Land.*—Five hundred and twenty-four inspections and check surveys were made of land considered unfit for building purposes.

About 16,388 inquiries were made by solicitors and others; of that number 16,168 were revenue-producing to the extent of £2,021.

Three areas of land within the Tweed Shire, one area in the Hastings Shire, one within the City of Parramatta, one within the Gosford Shire, one within the Municipality of Bankstown and one area within the Lake Macquarie Shire were notified in *Government Gazettes* as unfit for building purposes.

Surveys have been made and plans, specifications and notices are being prepared of several areas of land in various parts of the State which are considered unfit for building purposes.

Preliminary inspections and surveys have been made of other lands in various parts of the State, but these have not yet been proceeded with owing to various circumstances including pressure of work on solicitors' inquiries and finalisation of previous surveys.

Owing to the increase in survey work and the preparation of plans, specifications and check inspections and survey of land improved to comply with notices, a number of applications from Councils relating to land situated within their respective areas cannot yet be given necessary attention.

*Infectious Diseases.*—Five investigations were made and suitable action taken.

*Rat Infestation.*—Eight hundred and thirty rats were examined in the Microbiological Laboratory and were found free from plague; 176 of that number and sixteen mice were trapped by the Department's rat-catchers.

Seven investigations were made respecting alleged rat infestation and where found necessary suitable action was taken.

*Sydney Wharves.*—Eighty-seven visits were made to these premises, and the controlling authorities notified where repairs, eradication of rats, etc., were considered necessary.

Re-inspection of the premises disclosed that the work required has been or is being carried out.

*Nuisances.*—Three hundred and forty-eight complaints respecting drainage, pollution of watercourses and other alleged nuisances were made following which action considered necessary was recommended.

*Sorting of Dead Wool.*—Five visits were made to premises on which this process is carried on and where considered necessary advice was given.

*Dairies Supervision Act.*—During the year two Shire Councils made application to be proclaimed the Local Authority under this Act. The necessary investigations were made and in each case the applications were recommended.

Thirty-seven dairy and milk-vendors' premises were inspected.

*Samples of Water, Sewage, Effluents, Soils, Dust, Sawdust and Air.*—Ninety-eight samples were collected for chemical and bacteriological examination on results of which suitable action was recommended.

*Knackers and Horse Flesh Shops.*—Fifty-two inspections were made and where found necessary suitable action was recommended.

*Legal Proceedings.*—Fourteen prosecutions were instituted for breaches of various Acts, Regulations and Ordinances and fines and costs amounting to £81 11s. were imposed.

*Amendments to Acts, Regulations and Ordinances.*—Several proposed amendments of the Local Government Ordinances were submitted to and approved by the Board of Health under section 26B of the Public Health Act, 1902-1944.

*Applications for Cyanide Operation Licence.*—During the year two (2) persons presented themselves for the respective examinations and were recommended.

*Committees.*—An Officer of this Branch represents the Department on the following Committees:—

Building Regulations Advisory Committee, Cyanide Examination Committee, Country Abattoirs Sites Committee, Commonwealth Reconstruction Training Scheme, Standards Association of Australia.

*Arsenic Works, Jennings.*—Matters related to the above works are being kept under observation.

## PRIVATE HOSPITALS ACT, 1908.

## Report on the Operations of the above Act for the year ended 31st December, 1948, by A. J. Hope, M.B., Ch.M.

At the end of the year there were 303 licensed hospitals in New South Wales, having a bed capacity of 3,811. On comparisons with the figures for 1947, this showed a reduction of hospitals by seven or 2.25 per cent., but an increase in the number of beds by 37 or .98 per cent.

Of the 303 hospitals, 144 were in the metropolitan area, a gain of three, and 159 in the country, a loss of ten. The number of beds in the metropolitan area were 2,658, an increase of 138, and in the country 1,153, a loss of 101.

Of the total number of 303 hospitals, 192 were licensed to receive between one and ten patients and 111 more than ten patients at any one time; forty-one of the latter only were licensed to receive more than twenty at any one time.

In a further analysis, eighty-six were licensed to receive lying-in cases only; seventy-two for medical and surgical cases and 145 for medical, surgical and lying-in cases. Of the three types of hospitals, only that admitting medical and surgical cases showed an increase—as happened last year—this being ten or 16.13 per cent. The other two showed a loss; that admitting lying-in cases only being eight (8.5 per cent.), and that admitting medical, surgical and lying-in being nine or 5.8 per cent.

*Inspection of Private Hospitals.*—Hospitals were inspected as regularly as possible, but not as frequently as one would desire, owing to a shortage of supervisory nurses, who carry out this work. This shortcoming, it is hoped will be overcome soon when two vacancies on the staff have been filled.

In spite of this disability, it can be stated that the standard has been fairly maintained.

Maintenance work in general has been neglected and no doubt will be lagging for a lengthy period yet owing to shortages of labour and material and high costs.

*Prosecutions.*—There have been no prosecutions during the year.

*Puerperal Cases.*—Seven (7) cases were reported as originating in private hospitals for the year.

Persistent and frequent overcrowding, as usual, has been very prevalent. In this matter a lenient and realistic attitude has been adopted in the public benefit as the availability of beds for those needing them is far short of requirements.

*Rest and Convalescent Homes.*—As appears to have always been the case the quality of these establishments varies from very bad to excellent. Although inspections are regularly carried out nothing much in the way of procuring improvements has been achieved in the less desirable places owing to the lack of appropriate enabling legislation.

*The Bush Nursing Association and Country Women's Association.*—These bodies still maintain small hospitals in sparsely populated areas in spite of great difficulties, particularly in finding and keeping Resident Managers.

Thanks are extended to the Police Department and Nurses' Registration Board and staffs for their ready assistance at all times.

TABLE I.

Showing classification of Private Hospitals licensed at 31st December, 1948, according to nature of cases received and the total number of beds provided in each category.

	Medical, Surgical and Lying-in.		Medical and Surgical.		Lying-in.		Total.	
	No. Hospitals.	No. Beds.	No. Hospitals.	No. Beds.	No. Hospitals.	No. Beds.	No. Hospitals.	No. Beds.
Sydney Metropolitan Area .....	58	1,329	53	1,120	33	209	144	2,658
Country Districts ...	87	705	19	175	53	273	159	1,153
Total .....	145	2,034	72	1,295	86	482	303	3,811

Those hospitals which admit medical, surgical and lying-in cases make up the greatest proportion, followed by those that admit lying-in cases only, the proportions being 47.8 per cent. and 28.3 per cent. As regards bed-carrying capacity, those hospitals which admitted medical, surgical and lying-in patients again constituted the greatest proportion, followed by those admitting medical and surgical patients only, the proportions being 53.4 per cent. and 33.9 per cent.

TABLE II.

Showing Classification of Private Hospitals with respect to size as signified by the number of beds available as at 31st December, 1948.

Beds.	1.	2	3.	4-5.	6-10.	11-20	Over 20.	Total
Sydney Metropolitan Area ...	2	4	7	14	43	38	36	144
Country Districts .....	10	15	15	30	52	32	5	159
Total .....	12	19	22	44	95	70	41	303

The number of six to twenty and over bed hospitals still constitutes the greater proportion, being 68 per cent.—the same as last year.

TABLE III.—Showing general decline in numbers of the different types of Private Hospitals in the five-year period, 31st December, 1943, to 31st December, 1948.

Year.	Total Hospitals.	Total Beds.	Medical, Surgical and Lying-in.	Medical and Surgical.	Lying-in.	1 Bed.	2 Beds.	3 Beds.	4-5 Beds.	6-10 Beds.	11-20 Beds.	Over 20 Beds.
1943 .....	433	4,678	201	53	179	23	31	38	70	138	91	48
1948 .....	303	3,811	145	72	86	12	19	22	44	95	70	41
Decrease .....	130	867	56	...	93	11	12	16	26	43	21	7
Increase .....	...	...	...	19	...	...	...	...	...	...	...	...
Percentage—												
Decrease .....	30.02	18.5	27.8	...	51.9	47.8	38.7	42.1	37.14	31.15	23	14.6
Increase .....	...	...	...	35.85	...	...	...	...	...	...	...	...

Once again it is noticeable that there has been a continuous decline in all categories with one single exception—the number of medical and surgical hospitals which showed an increase of nineteen or 35.85 per cent.

This decline again particularly affected those hospitals which admitted lying-in cases only, being 51.9 per cent.

Hospitals with a bed-capacity ranging from one to five decreased by sixty-five or 40.12 per cent., and those with a bed-capacity of six to over twenty decreased by seventy-one or 25.6 per cent.

## MEDICO-LEGAL SECTION.

**Hospital Admission Depot: Report of the Government Medical Officer for Sydney for the year ended 31st December, 1948.****Medical Staff.**

Dr. C. E. Percy, Government Medical Officer for Sydney.  
 Dr. S. H. Hankins, Medical Officer.  
 Dr. W. H. N. Randall, Medical Officer.

**Hospital Admission Depot.**

Assistants, three.  
 Night Officer, one.

**Medical Work.**

*Admissions to Hospitals and Homes.*—3,133 persons were admitted through the Depot to Metropolitan Hospitals, 6,448 to State Hospitals and Homes, and 1,065 to Convalescent Homes. Admissions of country residents to Metropolitan and Base Hospitals were also arranged. Ambulance removals arranged by the Depot totalled 8,923.

*Medical Examinations for State Government Departments.*—1,761 were performed, some persons being visited in their own homes.

*Medical Examinations of Police Recruits.*—1,196 recruits (probationary constables and police cadets) were examined, 534 probationary constables were examined after twelve months' service and 85 police cadets were given periodical examinations during the year.

*Medical Examination of Sick Police.*—Matters concerning the health of the Police Force are dealt with. The average daily number of police on sick report was 98.

**Medico-Legal Work.**

*Examinations of Alleged Rape and Criminal Assault Cases.*—104 examinations were made, exhibits connected with such cases were examined, and evidence was given at various courts.

*Work for the Coroner's Court.*—The Government Medical Officer performed post-mortem examinations at the City Morgue in connection with suicides, homicides, violent and uncertified deaths.

*Lunacy Work.*—The Reception House at Darlinghurst is visited daily—1,186 cases were certified as insane.

*Vaccinations against Smallpox.*—249 vaccinations were performed for the Police Force and the general public.

**Annual Report of the Government Medical Officer, Newcastle, for year ending 31st December, 1948 (Two months only).****Staff.**

Dr. C. W. England, Government Medical Officer (Appointed 1st November, 1948).

**Medical Work.**

1. Examinations of persons for appointment to and fitness to continue in the Public Service for State Government Departments, and also for various allied bodies—Twenty-three.

2. Examinations of returned soldier applicants for travelling concessions—Eleven.

3. Examination of persons for Child Welfare Department, allowances, etc.—One.

4. Attendances at the Reception House, Newcastle, in connection with the examination and certification of insane patients—Forty-seven.

5. The G.M.O. is a Medical Referee and Member of the Local Medical Board for the Workers' Compensation Commission—Four.

**Medico-Legal Work.**

1. The performance of autopsies at the request of the District Coroner in cases of homicide, suicide and violent and uncertified deaths—Thirty-four.

2. The examination of persons at the request of the Police Department in cases of rape, assault, etc.—Four.

3. Attendance at various courts and the giving of evidence in connection with any of the above cases.

## HEALTH EDUCATION AND PROPAGANDA.

**Report of the Publicity Officer for 1948.**

1. *Introductory.*—Unfortunately, the amount made available for health education of the public in 1948-49 was only £10,000 (the same as for last year) and was wholly inadequate to support a vigorous and sustained educational drive similar to that conducted during the two-year period 1945-47 when a total of £57,000 was expended on health education.

The smallness of the vote for the second successive year was a bitter disappointment because it meant the complete abandonment of hopes to resume press and radio advertising—media which have been used with outstanding success in the past, particularly from the point of view of maintaining fairly regular and intimate contact with the public. Moreover, steadily rising costs this year forced further economies in the production of publicity material which were reflected by the decrease in the volume of such material produced. This is to be regretted because the Department's earlier efforts have given the impression to councils, schools, hospitals, firms, clubs, various public and private organisations, parents, and the public generally, that the Department is a source for publicity material on all vital health problems. Whilst some progress towards this desirable goal was made in the years when adequate finance was available, such past achievements are now in danger of being lost, and great difficulty is being experienced in maintaining adequate stocks of the more essential publications, posters, etc.

The reduction in the vote for health education has not meant a reduction in the work performed by the Branch. Where the Department once paid for publicity on health matters, and is not now able to do so owing to lack of funds, endeavours are now made to secure similar coverage by other means. Hence the efforts of the Branch have been directed to securing as much free space in newspapers for articles and paragraphs, and as much free time over broadcasting stations for talks and scatters, as possible. Already some very satisfactory arrangements have been made in this connection, e.g.

each week over 300 press articles are forwarded to country and suburban newspapers, whilst a number of country broadcasting stations receive weekly scripts. However, the preparation and despatch of a regular supply of material is an enormous task, and is one of many new tasks which keeps the Branch busily employed.

Again, there have been increased efforts by the Branch to seek the co-operation of councils, schools and various other organisations in the dissemination of health information through locally arranged campaigns, film screenings, lectures, etc. Through co-operation of this nature, expressed in its most perfect form during the annual Health Week campaign, it has been possible to secure wide publicity on vital health matters which has helped to fill the gap caused by the enforced abandonment of paid press and radio advertising.

However, as costs of production continue to increase, the purchasing power of a £10,000 vote will continue to decrease, and less material will be available to support a continuous educational campaign. Whilst a certain amount of free publicity can be obtained this cannot go beyond a certain limit, particularly in times where newsprint shortages create strong commercial demand for newspaper space and broadcasting time.

It is essential, therefore, that the Department should not have to rely on the charity of various publicity media to carry the weight of its health education programme, but should ensure that sufficient funds are provided to carry out a well-balanced and continuous campaign throughout the year, giving due emphasis to any particular problem of the moment, e.g. poliomyelitis during an epidemic of that disease.

In comparison with the millions of pounds spent each year in curing and treating sick people in hospitals, the expenditure of an annual sum of even £100,000 to teach the public the rules of healthy living and how not to become a hospital case (and so a burden on the community) would pay inestimably greater dividends. It can hardly be expected that there will be

any alleviation of the acute hospital bed position until a policy adopting such an outlook is put into operation. In the meantime it is difficult, indeed impossible, to achieve this very desirable situation with a health education vote of only £10,000 per year.

**2. Publications Issued in 1948—**

50,000 copies of two revised editions of the mothercraft book, "Our Babies."

50,000 copies of revised 8-paged, 2-colour illustrated booklet, "Get Rid of the Rats."

10,000 copies of new 8-paged, 2-colour illustrated booklet, "Goutre."

50,000 copies of new 6-paged, 2-colour pictorial folder, "Can You Tell Which of These Persons Have T.B.?"

100,000 reprints of 4-paged, 2-colour illustrated pamphlet, "Here are the Facts" (diphtheria immunisation).

20,000 reprints of 16-paged, 2-colour illustrated booklet, "V.D. is Curable."

50,000 reprints of 3-colour illustrated folder, "Sumptuous Sandwiches for School Lunches."

40,000 copies of revised edition of 64-paged illustrated booklet on pre-natal care, "Healthy Motherhood."

**3. Posters Issued in 1948—**

5,000 reprints of "Cleanliness Repels Disease," size 20 x 30 inches.

5,000 reprints of "Sensible Living Helps Prevent T.B.," size 20 x 30 inches.

200 copies of new 24-sheet poster, "Do You Want Your Child to Suffer" (diphtheria).

**4. Window Displays.**—Owing to the heavy reduction in the vote, it was necessary to curtail expenditure on widow displays, and during the year our contractors arranged only sixteen major and 192 minor displays, as compared with 102 and 445 respectively, for the previous year.

Minor display material was augmented by the production of a number of small displays on tuberculosis and 231 cut-out and mounted posters.

**5. Health Week Matinee Screenings.**—As last year, a special series of matinee screenings of 35 mm. health films in theatres for school children was arranged as part of the Sydney and Newcastle Health Week campaign.

In co-operation with twelve Municipal and Shire Councils in the Sydney area, the Department arranged twenty-three such screenings at which the attendance totalled 25,550. Although this is a heavy reduction on last year's figures (42,608), it is still very satisfactory when it is realised that Councils were not pressed to arrange these screenings. This is because officers of the Branch were busily engaged in the preparation of a new exhibit for the Health Exhibition, and were unable to devote the same amount of time to such screenings as last year.

**6. Co-operation in Health Week Campaigns, etc.**—During the year the Department co-operated with the Sydney and Newcastle Health Week Committees in the conduct of Health Week campaigns, and with the Wollongong Apex Club in an anti-tuberculosis drive in that area.

Participation in Health Week campaigns includes special grants of £200 to each Committee and co-operation with schools, organisations and local government authorities in the following: lectures and talks by departmental officers; broadcast addresses; provision of window displays and display material; matinee screenings of health films in local picture theatres for school children; supply of pamphlets, posters, and the screening of 16 mm. films. This year the Minister for Health opened the Newcastle campaign, and with other Ministers of the Crown attended and addressed various Sydney functions.

**7. "Fight T.B." Exhibition.**—The theme of the exhibition conducted by the Council of the City of Sydney this year was the detection and prevention of tuberculosis. Utilising the framework of the old "Fitness" Exhibit the Department expended nearly £3,000 in the preparation of a giant new display which told by way of models, coloured photographs, illuminated transparencies and recorded addresses the entire tuberculosis story. A new film, "The Campaign Against Tuberculosis in N.S.W." was specially prepared for the occasion and was screened in a theatrette alongside the exhibit. In addition to this exhibit and two film theatrettes, the Department entered a new display on nutrition, and re-exhibited the famous V.D. Galleries.

The attendance at the exhibition was disappointing and only totalled about 20,000. However the majority of people who attended inspected the departmental exhibits, and 14,000 visited the two theatrettes which once again proved the most popular attraction of health exhibitions. The failure to attract a greater attendance to this excellent exhibition, must be put down to the lack of sufficient publicity. Should another exhibition be held next year, the Department must be given a guarantee, before committing itself to heavy expenditure, that the organising committee will provide adequate and imaginative publicity.

**8. Slides.**—Twenty-four full screen slides were produced during the year to replace a number of slides on diphtheria immunisation which were broken in the course of normal use. The Department now has a very large library of slides covering all health topics, and makes these available to Councils for use at local theatres.

**9. Films.**—During the year the Department added another eight titles to its 16 mm. film library, and now has a total of 101 different titles, with extra copies of several of them. As in previous years, screenings of these films on the Department's own equipment were given throughout the year, the number of such screenings being 144 at which the audience totalled 27,477. This figure added to the 25,550 children who viewed 35 mm. films at matinee film screenings, gives a grand total of 53,027 persons who viewed departmental films during the year.

Since the Department first engaged in visual education with films, it has restricted the use of its 16 mm. films to its own equipment and specially qualified officers. However, in view of the frequent demand by Medical Officers of Health, Councils, schools, hospitals and other organisations for the loan of films, a small lending library was commenced during the year. As funds permit it is hoped to add additional titles to this library. At the same time it must be recognised that films in the Department's main library cannot be made available for general loan under any circumstances. If such a policy were to be adopted it would throw the regular screening service into chaos, and would lead to the rapid deterioration of valuable films which cannot be replaced. In this connection it is worth while to mention that there are many films in the library which through care and regular servicing have exceeded their normal period of usefulness by four or five years, and which will be able to be screened for several more years provided their use is restricted to officers of this Branch.

The Department continued to take advantage of its agreement with the Motion Picture Industry for free release of approved 35 mm. films throughout N.S.W. theatres. "The Menace of Ah Tish OO" (a film on the common cold, produced by the Department) and "Danger Signal" (a film on cancer, produced by the Queensland Health Education Council) were released under the agreement. The Department also produced during the year a twenty-minute 16 mm. documentary, "The Campaign Against Tuberculosis in N.S.W." for screening at the "Fight T.B." Exhibition. The film contains so much excellent information that it is proposed to reduce it to five minutes, obtain 20 x 35 mm. prints, and have it released throughout N.S.W. at the earliest opportunity.

## C—NUTRITION SECTION.

### Report by the Dietitian on the Activities of the Nutrition Section for the year ended 31st December, 1948.

*Staff.*—Dietitians, three; shorthand-typiste, one.

The work of the Nutrition Section may be divided into two spheres, i.e. nutrition education and institutional food services.

*Nutrition Education* is carried out by lectures, newspaper articles, broadcast talks, talks to mothers at Pre-natal Centres and answers to personal inquiries.

*Lectures.*—During 1948 single lectures on children's food needs were given to the mothers of children attending all the Day Nurseries and many of the free kindergartens in the Metropolitan area as well as to many parent groups and school clubs. Talks on various aspects of food and food values were given to other groups such as Church clubs and Country Women's Associations. Courses of lectures on nutrition were given to third year trainees at both the Kindergarten Union Training College, the Day Nursery Training College and a Voluntary Aid Detachment.

Talks and demonstrations on food were given at Agricultural Bureau conferences and Junior Farmer Field days in many country districts. While in these centres the dietitians visited public and denominational schools and gave talks to the pupils, visited the Baby Health centres and talked to the mothers and addressed any appropriate gathering of citizens.

*Articles and Broadcasting Scripts.*—The regular supply of articles to country newspapers and broadcast scripts to station 2HR (Hunter River) and 2TM (Tamworth) was maintained. Articles on food were supplied to the "Housing Magazine" each month and various newspaper paragraphs and broadcasting scripts were produced as required.

Several new pamphlets and brochures on nutrition were produced in 1948 but owing to lack of funds it was found necessary to have these in reduced form. One of these "How Shall I Feed Him"—"Children's Meals and Pudding Recipes" —has proved exceedingly popular with all parents' groups and if funds can be made available to produce it as a printed booklet it would be a great asset to the Department in general and this section in particular. The existing departmental pamphlets were revised as required and the complete text for the booklet "Food and Nutrition" has been rewritten.

*Town Hall Exhibition.*—During Health Week 1948 the Nutrition Section organised and staffed an exhibit at the "Fight Tuberculosis" exhibition at the Town Hall. Scales were provided for weighing people and this created initial stimulus which encouraged people to study the exhibit more fully. The exhibit stressed the importance of the protective and building foods and sample meals for breakfast, lunch and dinner were prepared and tastefully set out by domestic science pupils through the co-operation of the Department of Education.

*Pre-Natal Clinics.*—The most important advance in the field of nutrition education during the past year has been the extension of the services of the section to the Department's Pre-Natal Clinics. One of the dietitians attends the pre-natal clinic at Parramatta each week. The service is to be extended to encompass other centres in the next twelve months.

*Marketing Reports.*—Advice on the prices of fruits and vegetables is given to housewives through a weekly marketing report which is broadcast over six Metropolitan broadcasting stations, viz., 2GB, 2KY, 2UE, 2CH, 2UW, and 2SM.

*Answers to Personal Inquiries.*—All correspondence seeking information on food is handled by the section and personal interviews are given on request.

Advice on special diets for people suffering from conditions such as peptic ulcers, diabetes, blood pressure, etc., has been given after consultation with the inquirer's medical adviser and several doctors have adopted the practice of advising patients to seek the departmental dietitian's advice. In these cases copies of diet charts are always forwarded to the doctor for his or her information.

*School Canteens.*—The activities of the section in connection with school canteens have been maintained and at the request of the Education Department one of the dietitians, in company with a staff supervisor of that Department, carried out an inspection of all school tuckshops and furnished a report to the Department of Education together with certain recommendations concerning the contract under which tuckshops are leased. The representation on the School (Oslo) Lunch Advisory Committee has been maintained and many inquiries relating to canteens have been dealt with. Throughout the year lectures and talks on the importance of school canteens and the necessary steps to take in the establishment of same have been given as requested. At the request of the Coal Board which has agreed to equip canteens in coalfields areas, inspections have been carried out at schools in the Cessnock, Wollongong and Lithgow districts to ascertain the possibility of establishing canteens.

The secretarial work of the School (Oslo) Lunch Advisory Committee which involves the answering of correspondence, arranging of meetings and handling of all affairs of the Committee, has been undertaken by the dietitian who represents the Department on the committee.

*The N.S.W. Institute of Dietitians.*—One of the dietitians has been the secretary of the N.S.W. Institute of Dietitians, which is the body responsible for the training of dietitians in the State. The secretary deals with most of the Institute's affairs, interviews people seeking information about training courses, makes any necessary arrangements with training hospitals and prepares the reports for the Council's consideration.

*Visits to Health Districts.*—To assist the medical officers in the Department's health districts the dietitians spent some weeks in the Newcastle, Richmond-Tweed and Wollongong districts. During these visits they worked under the guidance of the Medical Officers of Health and talked to school pupils, mothers at baby health centres, nurses at district hospitals and gave advice as required to these establishments on their food services.

*Institutional Food Services.*—The services of the dietitians have been utilised in three main ways in relation to the Department's institutions.

In May, 1948, one of the dietitians commenced attending Randwick Auxiliary Hospital on two days each week to give assistance in the planning of menus, ordering of food supplies and guidance of the kitchen staff in the preparation of the meals. The service was started initially for a trial period of three months and although it is not entirely satisfactory in that with only a part-time service, and it is not possible to take responsibility for the staff or most of the meals served, it has been considered of sufficient benefit to the hospital to warrant its continuance throughout the year.

A report was prepared on the *food services in mental hospitals* and it was agreed that certain additions should be made to the basic ration scale. Menus to allow for more variety in the meals were prepared to cover a period of three weeks and it is intended to institute these as a trial at Parramatta Mental Hospital as soon as adequate steam pressure can be supplied to the main kitchen.

The third way in which the dietitians' services have been used is in relation to *plans for new kitchens* and alterations to existing kitchens and kitchen annexes in the Department's institutions. The dietitians have examined such plans, made recommendations and then attended meetings between representatives of the Department of Public Works and the Health Department at which the plans were discussed.

*Non-departmental Institutions.*—Advice and assistance on food services has been given when required for organisations such as Legacy and Toe H. Several inspections of children's homes controlled by the Child Welfare Department have been made and reports furnished to that Department.

## D—MATERNAL AND BABY WELFARE.

### PART I—MATERNAL WELFARE.

#### 1. Pre-natal Clinics.

For 1948 there were 10,703 individual attendances, being 1,158 more than the previous year with 9,545.

The increase has been due chiefly to a sharp rise in the number of mothers attending Manly Clinic. Two sessions weekly, Monday morning and afternoon, are held at Manly, and the average number of attendances per session in the last six months has been 43.3 as against 31.8 for the first half of the year.

Owing to inadequate accommodation at Manly, these large numbers are difficult to handle and are imposing a great strain on the nursing staff. To help somewhat, the weighing of babies has been completely suspended on Monday. A further disability is that nearly all holidays fall on Monday, making subsequent sessions an even greater strain, than when even sessions can be maintained.

Attendances for the year at Parramatta, Campsie and Hornsby all increased—by 304 at Parramatta, 164 at Campsie and 55 at Hornsby. The other centres, Hurstville, Rockdale and Mascot, showed decreases, 320 at Hurstville, 402 at Rockdale and 102 at Mascot. Rockdale centre is now closed as from the end of this year.

A feature of the year has been the decrease in private hospital mothers attending the clinics, chiefly Campsie and Parramatta. At these two clinics haemoglobinometers are kept, and all mothers booked into a private hospital had a haemoglobin estimation at the clinic, but practically no tests have been necessary in the last three or four months.

It has also been noted that all hospitals for whom these Departmental clinics cater, with the exception of the Mater Misericordiae, North Sydney, are doing full blood examination, Wassermann and Kline reactions, haemoglobin estimation and Rh factor on all expectant mothers when booking in. This is a great improvement in procedure as compared with 1947 and even with the first half of 1948.

#### 2. Scheme for the Reduction of Maternal Mortality.

The Special Medical Committee investigating maternal mortality in the metropolitan area includes the Director-General of Public Health, the Emeritus Professor and the Professor of Obstetrics at the University of Sydney, the senior honorary medical officers of each of the two student-teaching hospitals, a general practitioner appointed by the New South Wales Branch of the British Medical Association and the Director of Maternal and Baby Welfare; the latter is the medical secretary of the committee.

The co-operation of the medical superintendents of the metropolitan obstetric hospitals and medical practitioners in private practice has been greatly appreciated by the Committee. Questionnaires, which set out to furnish a detailed and accurate case history, are sent to the public obstetric hospitals shortly after the occurrence of each maternal death. These questionnaires are also sent to the private practitioners and consultants concerned and thus a complete history of the case is obtained. In this way the committee endeavours to assess as accurately as possible the avoidable factors, if any, and the responsibility for same in each maternal death and thus achieve the object of reducing maternal mortality.

#### 3. Consultant Service.

Since the scheme came into operation in 1939 the services of obstetric consultants who have agreed to receive a reduced fee from the Department, have been available for all patients who are unable to meet a specialist's fee.

The consultant service, is however, not frequently used because fewer mothers are confined in their own home, and those in the obstetric hospitals are provided with a specialist service when necessary.

#### 4. Metropolitan Blood Transfusion Service.

The decrease in maternal death from haemorrhage is largely due to the mobile blood transfusion service. This service is available to any medical practitioner at any hour of the day or night. The original unit was stationed at the Women's Hospital, Crown-street. During 1945 other units were established at Royal Prince Alfred Hospital, North Shore Hospital and the Royal Hospital for Women, Paddington.

#### 5. Physiotherapy in Pregnancy and the Puerperium.

Under the supervision of qualified physiotherapists pre-natal and post natal exercises are a routine at the Royal Hospital for Women; and post natal exercises are routine procedure at the Women's Hospital, Royal North Shore and King George V and Ryde District Hospitals. Medical officers at the Departmental clinics have observed that mothers who have attended these hospitals have received considerable benefit from these exercises. Moreover, their abdominal muscles usually regain normal tone and their posture is resumed correctly. Post-natal examinations reveal that the mothers who have had post natal exercises less frequently develop gynaecological abnormalities such as retroversion, cystocele, rectocele, and the like.

At the metropolitan obstetric hospitals where this procedure has been instituted, medical and nursing staff report that the mothers express their appreciation of the sense of well being which the exercises produce and of the regaining of their normal figure.

The New South Wales Branch of the Australian Physiotherapy Association has introduced a sound routine of training in this subject at the Royal Hospital for Women under Miss Nancy Love with special lectures by Emeritus Professor Windeyer.

The Departmental film, "Physiotherapy in Pregnancy and the Puerperium" continues to be used for the teaching of medical and physiotherapy students and for the training of nurses. Copies are used for training physiotherapy students in other States.

#### 6. Control of Puerperal Infection.

To protect mothers after the birth of their babies, from cross infection, which might prove fatal, every effort is made by this Department to prevent the spread of puerperal sepsis. Control is effected by the administration of the Nurses' Registration Act which compels all nurses to notify any case of puerperal pyrexia occurring in their practice, which prohibits a nurse from attending any other case while attending a patient with puerperal infection, and which examines her methods in the management of her cases; also by the Public Health Act under which puerperal infection is a notifiable disease, and by the Private Hospitals Act.

The regulations of the various acts are designed to prevent the occurrence of puerperal sepsis, particularly those for nurses relating to the wearing of masks, the management of the case etc. Each case of infection occurring is investigated by bacteriological examination. Further action is determined by those results, the dual object being to protect midwifery patients from further possibility of infection and to avoid any delay or difficulty in nursing and medical supervision.

During 1948, 73 cases were notified to the local authorities. Of these 48 were due to abortal sepsis (48 in the Metropolitan area and nil in the country) and 25 following confinement (10 in the city and 15 in the country).

The distribution of these cases was:—

	Abortal Sepsis.	Following confinement.
Private hospitals .....	...	8
Public hospitals .....	48	17

Under the Nurses' Registration Act, 48 cases of pyrexia were notified during 1948 (10 in the city and 38 in the country).

#### Vital Statistics.

The live birth rate for New South Wales for 1948 was 22.19 per 1,000 mean population. The number of live births was 67,234 and of still births 1,326, a total of 68,560. (See Table I.)

TABLE I.

Live Births and Still Births.

Year.	Total Births.	Live Births.		Stillbirths.	
		Number.	Rate per 1,000 of population.	Number.	Per 1,000 total births, Live and Still.
STATE OF NEW SOUTH WALES.					
1935 ...	46,077	44,676	16.89	1,401	29.80
1936 ...	47,612	46,193	17.31	1,419	29.80
1937 ...	48,949	47,497	17.62	1,452	29.66
1938 ...	48,792	47,319	17.38	1,473	30.19
1939 ...	49,363	48,003	17.45	1,360	27.55
1940 ...	50,724	49,382	17.78	1,342	26.46
1941 ...	53,193	51,729	18.47	1,464	27.52
1942 ...	54,058	52,647	18.60	1,411	26.10
1943 ...	58,730	57,265	20.04	1,465	24.94
1944 ...	61,123	59,612	20.65	1,511	24.72
1945 ...	63,202	61,202	21.14	1,540	24.37
1946 ...	68,794	67,247	22.83	1,547	22.49
1947 ...	70,864	69,398	23.25	1,466	20.69
1948 ...	68,560	67,234	22.19	1,326	19.35
METROPOLITAN AREA (Statistical Metropolis).					
1935 ...	17,495	16,907	13.60	588	...
1936 ...	18,341	17,759	14.23	582	31.73
1937 ...	18,748	18,158	14.48	590	31.47
1938 ...	19,150	18,559	14.73	591	30.86
1939 ...	19,885	19,223	15.24	562	28.26
1940 ...	20,515	19,942	15.53	573	27.93
1941 ...	23,019	22,366	17.05	653	28.37
1942 ...	23,848	23,220	17.26	628	26.33
1943 ...	27,700	26,989	19.52	711	25.67
1944 ...	29,014	28,318	19.96	696	24.58
1945 ...	30,230	29,501	20.42	729	24.12
1946 ...	32,467	31,769	21.68	698	21.50
1947 ...	32,536	31,918	21.51	618	18.99
1948 ...	30,605	30,047	20.01	558	18.23

The loss of mothers' lives per 1,000 live births is expressed as a maternal mortality rate. The rate for New South Wales

for 1948 was 1.37, including deaths from criminal abortion. Exclusive of such deaths the rate was 1.20 (see Table II).

TABLE II.—Maternal Mortality.

Metropolitan Area, Remainder of State and Whole State.

Year.	Live Births.			Deaths from Puerperal Causes (excluding Criminal Abortion)			Maternal Mortality Rate per 1,000 live births (excluding Criminal Abortion).		
	Metro- politan.	Re- mainder.	State.	Metro- politan.	Re- mainder.	State.	Metro- politan.	Re- mainder.	State.
1935 .....	16,907	27,769	44,676	74	156	230	4.38	5.62	5.15
1936 .....	17,759	28,434	46,193	103	133	236	5.80	4.68	5.11
1937 .....	18,158	29,339	47,497	83	115	198	4.57	3.92	4.17
1938 .....	18,559	28,760	47,319	72	109	181	3.88	3.79	3.82
1939 .....	19,323	28,680	48,003	59	103	162	3.05	3.59	3.38
1940 .....	19,942	29,440	49,382	59	116	175	2.96	3.94	3.54
1941 .....	22,336	29,363	51,729	67	110	177	2.99	3.74	3.42
1942 .....	23,220	29,427	52,647	61	111	172	2.62	3.77	3.27
1943 .....	26,989	30,276	57,265	66	103	169	2.45	3.40	2.95
1944 .....	28,318	31,294	59,612	74	81	155	2.61	2.59	2.60
1945 .....	29,501	32,161	61,662	46	76	122	1.56	2.36	1.97
1946 .....	31,769	35,478	67,247	33	67	100	1.03	1.89	1.49
1947 .....	31,918	37,480	69,398	38	74	112	1.19	1.97	1.61
1948 .....	30,047	37,187	67,234	30	51	81	1.33	1.03	1.37

NOTE—Total Puerperal Deaths on this page include Acute Yellow Atrophy of the liver, from 1940 onwards.

The factors concerned in the marked reduction in this rate since 1940 are indicated in the graph and in the figures pre-

sented under the classification of causes for the years 1944-48 inclusive.

TABLE III.—Maternal Mortality.

Causes of Death.	1944.		1945.		1946.		1947.		1948.	
	No.	Rate per 1,000 live births.								
Accidents of pregnancy .....	15	0.25	21	0.34	13	0.19	19	0.27	13	0.19
Puerperal haemorrhage .....	23	0.39	17	0.27	16	0.24	18	0.26	11	0.16
Puerperal septicaemia .....	13	0.22	7	0.11	8	0.12	3	0.04	1	0.02
Post-abortive septicaemia .....	13	0.22	6	0.10	2	0.03	9	0.13	2	.03
Thrombophlebitis embolism, sudden death .....	23	0.39	13	0.21	11	0.16	11	0.16	13	0.19
Eclampsia, Albuminuria .....	54	0.90	39	0.63	38	0.57	36	0.52	28	0.42
Other casualties of childbirth .....	14	0.23	19	0.31	12	0.18	16	0.23	13	0.19
Total .....	155	2.60	122	1.97	100	1.49	112	1.61	81	1.20
Criminal abortion .....	31	0.52	17	0.28	11	0.16	18	0.26	11	0.16
Grand Total .....	186	3.12	139	2.25	111	1.65	130	1.87	92	1.37

NEW SOUTH WALES.

Accidents of pregnancy .....	15	0.25	21	0.34	13	0.19	19	0.27	13	0.19
Puerperal haemorrhage .....	23	0.39	17	0.27	16	0.24	18	0.26	11	0.16
Puerperal septicaemia .....	13	0.22	7	0.11	8	0.12	3	0.04	1	0.02
Post-abortive septicaemia .....	13	0.22	6	0.10	2	0.03	9	0.13	2	.03
Thrombophlebitis embolism, sudden death .....	23	0.39	13	0.21	11	0.16	11	0.16	13	0.19
Eclampsia, Albuminuria .....	54	0.90	39	0.63	38	0.57	36	0.52	28	0.42
Other casualties of childbirth .....	14	0.23	19	0.31	12	0.18	16	0.23	13	0.19
Total .....	155	2.60	122	1.97	100	1.49	112	1.61	81	1.20
Criminal abortion .....	31	0.52	17	0.28	11	0.16	18	0.26	11	0.16
Grand Total .....	186	3.12	139	2.25	111	1.65	130	1.87	92	1.37

METROPOLITAN AREA (STATISTICAL METROPOLIS).

Accidents of pregnancy .....	4	0.14	7	0.24	3	0.09	5	0.16	4	0.13
Puerperal haemorrhage .....	12	0.42	6	0.20	4	0.13	3	0.09	4	0.13
Puerperal septicaemia .....	7	0.25	4	0.14	1	0.03	1	0.03	1	0.04
Post-abortive septicaemia .....	7	0.25	3	0.10	2	0.07	1	0.03	...	...
Thrombophlebitis embolism, sudden death .....	9	0.32	4	0.14	3	0.09	5	0.16	5	0.17
Albuminuria and eclampsia .....	25	0.88	14	0.47	13	0.41	16	0.50	13	0.43
Other casualties of childbirth .....	10	0.35	8	0.27	7	0.22	7	0.22	3	0.10
Total .....	74	2.61	46	1.56	33	1.04	38	1.19	30	1.00
Criminal abortion .....	18	.64	14	.47	5	.16	9	.28	10	.33
Grand Total .....	92	3.25	60	2.03	38	1.20	47	1.47	40	1.33

REMAINDER OF STATE.

Accidents of pregnancy .....	11	0.35	14	0.44	10	0.28	14	0.37	9	0.24
Puerperal haemorrhage .....	11	0.35	11	0.34	12	0.34	15	0.40	7	0.19
Puerperal septicaemia .....	6	0.19	3	0.09	7	0.20	2	0.05	...	...
Post abortive septicaemia .....	6	0.19	3	0.09	...	...	8	0.21	2	0.05
Thrombophlebitis embolism, sudden death .....	14	0.45	9	0.28	8	0.23	6	0.16	8	0.22
Albuminuria and eclampsia .....	29	0.93	25	0.78	25	0.70	20	0.54	15	0.40
Other casualties of childbirth .....	4	0.13	11	0.34	5	0.14	9	0.24	10	0.27
Total .....	81	2.59	76	2.36	67	1.89	74	1.97	51	1.37
Criminal abortion .....	13	0.41	3	0.10	6	0.17	9	0.24	1	0.03
Grand Total .....	94	2.94	79	2.46	73	2.06	83	2.21	52	1.40

The two groups of causes taking the highest toll of mothers' lives is haemorrhage and albuminuria and eclampsia. The former has shown a sustained reduction in the last four years. This can be attributed to the increased use of blood transfusions particularly in the metropolitan area where four mobile blood transfusion units are available. These are made available by co-operation between this Department, the Red Cross Blood Transfusion Service and the Royal North Shore Hospital, Women's Hospital, Crown-street, Royal Hospital for Women and the King George V Memorial Hospital for Mothers and Babies.

The death rate from albuminuria and eclampsia, although reduced, remains high, and is the highest rate of any group

of causes. More extensive ante-natal care resulting in early recognition of toxæmia is the only way in which reduction in this group of deaths can be achieved.

The Special Medical Committee investigating maternal mortality have before it instances of death from toxæmia where a weight record during pregnancy has not been kept nor the blood pressures taken. In other instances the mother or her relative have failed to follow the advice of her medical practitioner.

The death rate from post-abortive sepsis and from abortion has been reduced since the introduction of modern chemotherapy. (See Table IV.)

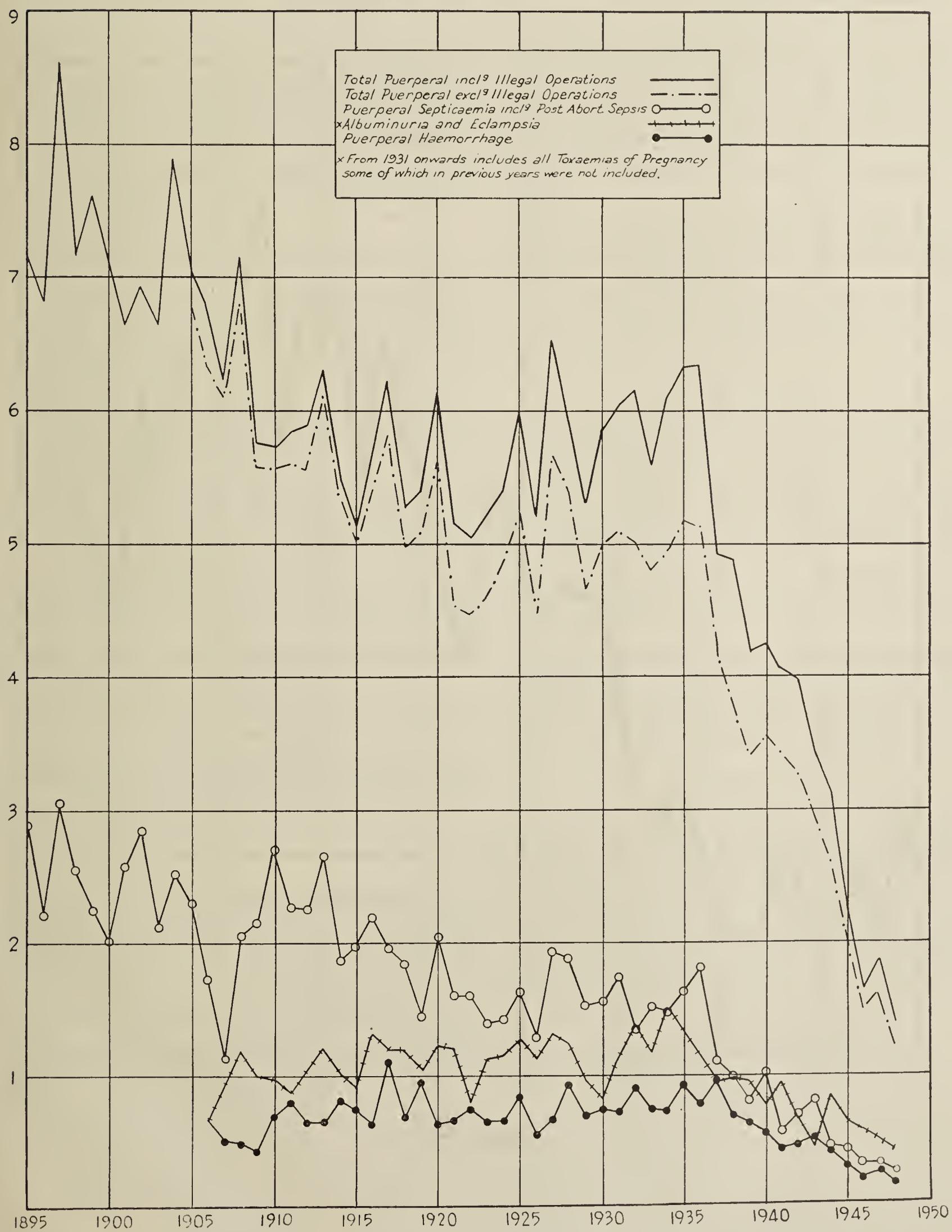
TABLE IV.—Criminal Abortion.

*Metropolitan Area, Remainder of State and Whole State.*

Year.	Deaths from Criminal Abortion.				Total Puerperal Deaths. (including Criminal Abortion).			
	Female deaths at all ages.		Female deaths at ages 15 to 44 years.		Female deaths at all ages.		Female deaths at ages 15-44 years.	
	No.	per cent.	No.	per cent.	No.	per cent.	No.	per cent.
METROPOLITAN AREA (STATISTICAL METROPOLIS).								
1935 .....	43	0.74	42	4.93	117	2.01	116	13.62
1936 .....	29	0.50	29	3.34	132	2.27	130	14.96
1937 .....	17	0.28	17	2.04	100	1.67	100	12.02
1938 .....	36	0.57	36	4.13	108	1.71	106	12.16
1939 .....	30	0.47	30	3.75	89	1.38	89	11.14
1940 .....	22	0.35	22	3.17	81	1.28	81	11.69
1941 .....	21	0.31	21	2.83	88	1.30	88	11.84
1942 .....	25	0.35	25	3.56	86	1.21	85	12.11
1943 .....	17	0.24	17	2.45	83	1.15	83	11.98
1944 .....	18	0.26	18	2.45	92	1.35	91	12.38
1945 .....	14	0.20	13	1.97	60	0.87	59	8.95
1946 .....	5	0.07	5	0.78	38	0.53	37	5.80
1947 .....	9	0.13	9	1.41	47	0.66	46	7.69
1948 .....	10	0.13	10	1.71	40	0.52	40	6.85
REMAINDER OF STATE.								
1935 .....	9	0.19	9	1.07	165	3.41	164	19.55
1936 .....	27	0.55	27	3.26	160	3.24	158	19.08
1937 .....	18	0.37	18	2.41	133	2.72	133	17.78
1938 .....	14	0.28	14	1.87	123	2.44	122	16.31
1939 .....	8	0.15	8	1.14	111	2.11	110	15.62
1940 .....	12	0.24	12	1.85	128	2.58	127	19.63
1941 .....	11	0.21	11	1.57	121	2.57	119	17.00
1942 .....	12	0.21	12	1.67	123	2.18	123	17.08
1943 .....	10	0.18	10	1.41	113	1.98	112	15.82
1944 .....	13	0.24	13	2.11	94	1.76	94	15.28
1945 .....	3	0.06	3	0.49	79	1.49	78	12.81
1946 .....	6	0.11	6	1.10	73	1.34	73	13.39
1947 .....	9	0.17	9	1.68	83	1.56	83	15.49
1948 .....	1	0.01	1	0.19	52	0.91	52	9.77
NEW SOUTH WALES.								
1935 .....	52	0.49	51	3.02	282	2.65	280	16.56
1936 .....	56	0.52	56	3.30	292	2.71	288	16.97
1937 .....	35	0.32	35	2.22	233	2.14	233	14.75
1938 .....	50	0.44	50	3.09	231	2.03	228	14.07
1939 .....	38	0.32	38	2.53	200	1.71	199	13.24
1940 .....	34	0.30	34	2.54	209	1.86	208	15.52
1941 .....	32	0.26	32	2.22	209	1.73	207	14.35
1942 .....	37	0.29	37	2.60	209	1.64	208	14.63
1943 .....	27	0.21	27	1.93	196	1.52	195	13.92
1944 .....	31	0.25	31	2.30	186	1.53	185	13.70
1945 .....	17	0.14	16	1.26	139	1.14	137	10.80
1946 .....	11	0.09	11	0.93	111	0.89	110	9.30
1947 .....	18	0.14	18	1.59	130	1.05	129	11.38
1948 .....	11	0.08	11	0.99	92	0.69	92	8.24

## DEATHS DUE TO PUEPERAL CONDITION, NEW SOUTH WALES

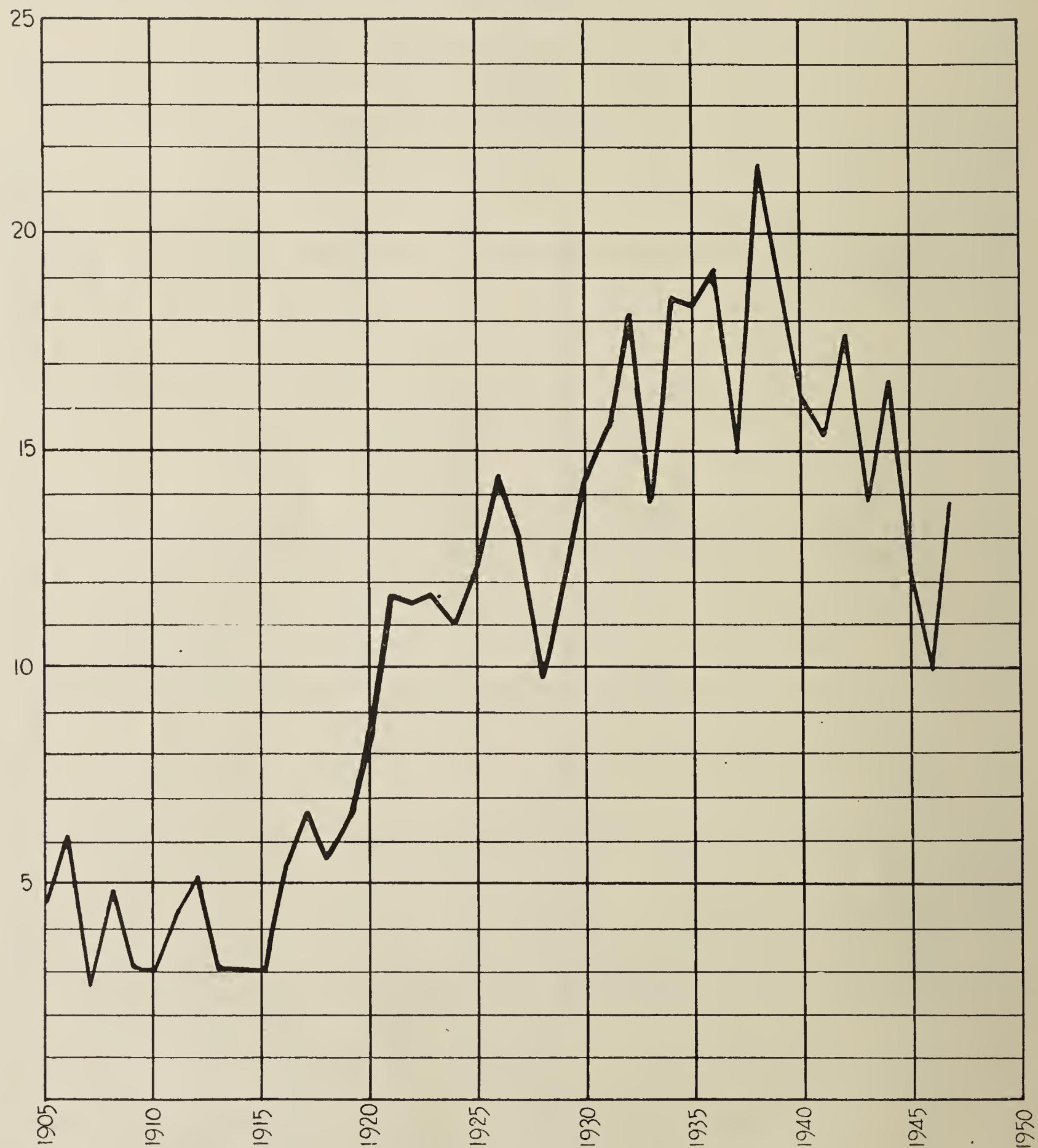
Death Rates from Certain Causes per 1,000 Live Births for the Years 1895-1948



Graph II

## MATERNAL MORTALITY

Deaths from Criminal Abortions as percentage of total Maternal Deaths in New South Wales, 1905-1948.



Graph 12

## PART II—INFANT WELFARE.

**1. Baby Health Centres.**

The decision of the Government in 1944 to give generous financial assistance in the establishment of new Baby Health Centre premises gave a tremendous impetus to the development of this most important field of maternal and baby welfare.

The policy provided that, where in future any local organisation of approved status is prepared to co-operate in the establishment of a Baby Health Centre for use either in substitution of existing unsatisfactory premises or as a fresh or additional Centre:—

- (a) The Government makes a grant of 50 per cent. of the capital cost of building and equipping the Centre (exclusive of the cost of the site) and, if required, advances up to a further 25 per cent. of these costs, subject to repayment of the loan by equated payments of principal and interest over a period of ten years.
- (b) If it is not possible to erect a new building but it is possible to purchase or rent suitable premises, the Government contributes 50 per cent. of the cost of the building exclusive of the site, or alternatively, 25 per cent. of the rent payable.
- (c) In addition to any other commitments involved in (a) of above, the local organisation will be required to maintain premises in good order and repair and be responsible for all maintenance upkeep such as cleaning, light and fuel, telephone charges, replacements of equipment and like service and undertake to make the premises available at all times to the Department of Public Health for use as a Baby Health Centre free of rent.
- (d) The Government undertakes to provide also, free of cost, the necessary staff for the Centre and be responsible for any travelling and sustenance expenses of the members of such staff in accordance with the Public Service Regulations.
- (e) The arrangement will also be subject in all cases to the local organisation obtaining the approval of this Department as to location, plans and equipment of the Centre, and to the organisation further undertaking not to interfere in any way with the conduct of the activities of the centre.

If the application for Government assistance is made, it is necessary for the Council or Committee to complete a resolution embodying the condition under which such grant is accepted.

Official standard lists of equipment are used as a basis of discussion and planning and all purchases of equipment are made through ordinary commercial channels.

Payment of 50 per cent. of the cost is made on production of receipts for all purchases which are in accordance with a list previously submitted and approved.

While observing the standard requirements for adequate and proper relationships of rooms for the most efficient working conditions, external appearance of general design have varied widely. The combination of domestic and institutional architecture has been the objective.

There are now 269 Baby Health Centres in the State, of which 73 are in the Metropolitan area, 11 in Newcastle and 185 in the Country.

There were twelve new buildings completed and occupied under the new policy during the year, viz., Beverley Hills, Bondi Beach, Coraki, Gerringong, which were new establishments, and Grenfell, Homebush, Kingsgrove, Lane Cove, Liverpool, Penrith and Willoughby, which replaced existing sub-standard premises.

Additions and extensions were constructed at the Binalong Centre with a 50 per cent. subsidy from the Department.

Centres were also established at Burrinjuck (premises being made available and equipment provided by the local authorities) and at Cobargo where the Centre is conducted in rented premises. In this latter case 50 per cent. of the cost of equipment was provided by the Department.

The Baby Health Centre staff consists of 3 Nurse Inspectors, 117 Senior Sisters and 64 Junior Sisters.

The attendances for the year were:—

Individual Attendances .....	103,400
Total Attendances .....	1,066,489

**Staff Lectures.**

Routine staff lectures are given each year at least once a quarter.

**Departmental Booklets.**—The Departmental free booklet, "Healthy Motherhood", of which 50,000 are printed annually, continues to be a most valuable publication and is used by

all the metropolitan obstetric hospitals, the majority of obstetric specialists and general practitioners.

Its chief aim is to raise the standard of pre-natal care by encouraging the mother to co-operate with her doctor, hospital or clinic by following implicitly the instructions given, by attending regularly, and by paying particular attention to diet during pregnancy.

In addition to this valuable instruction in pre-natal care, "Our Babies" is another free booklet from the Department of which 50,000 are printed annually.

**Country Women's Association.**—I wish to express my appreciation of the valuable support given by the Country Women's Association to the Baby Health Centres, especially since the inception of the 1944 policy under which the local authority (very frequently the Country Women's Association in country areas) provides the site for the centre and 50 per cent. of the cost of erection and equipment and maintains the centre when established. Nursing service is provided completely by this Department.

This policy has called for considerable expenditure of funds by country branches, and the willingness with which such financial responsibility has been undertaken by the Association, has done a tremendous amount towards furthering the Baby Health Centre service throughout the State.

**Tribute to Nurse Inspectors and Nursing Staff.**—I would also like to pay a tribute to the loyal and co-operative manner in which the Nurse Inspectors and the Baby Health Centre nursing staff have carried out their duties.

**2. Pre-school Child.**

The general interest of the community in recent years has been awakened to the needs of the pre-school child and there has been a marked demand from all sections of the community for increased facilities for this age group.

The Baby Health Centres always encouraged mothers to bring their toddlers and pre-school children to the centres for routine supervision, as the years from 0 to 5 are those in which the foundation is laid for the child's future health. These are the "vulnerable" years—the most formative period and the one of most rapid growth.

The Baby Health Centres give the parent of pre-school children instruction in simple dietetics and elementary hygiene as well as checking the weight and physical development of the child.

Unfortunately, owing to serious shortage of staff, it was found necessary, in order to continue to staff all Baby Health Centres in the city and the Country, and provide advice and supervision so essential for the mothers of young infants, to discontinue temporarily in the metropolitan area the practice of seeing children aged from 2 to 5 years as a matter of routine. Advice is, however, given in any case when especially needed.

**Infant Mortality.**

The mortality rate among infants in the first year of life was below 50 per 1,000 live births for the first time in 1930; was below 40 in 1933, 1935, 1940 and 1943, and in each of the five years, 1944 to 1948 did not show any marked deviation from the average for that period which was 30.31. The rate reached the then record low figure of 29.81 in 1947, but rose to 30.30 in 1948.

Although the sustained improvement in the rate is not obscured by these fluctuations in the annual figures the steadiness of the improvement is emphasised more in the following continuous five-yearly averages.

TABLE V.  
New South Wales.  
Infantile Mortality Rate per 1,000 Live Births.  
Continuous Five-yearly Averages.

Period.	Rate.	Period.	Rate.
1937-1941.....	41.29	1941-1945 .....	35.95
1938-1942.....	41.18	1942-1946 .....	33.30
1939-1943.....	39.95	1943-1947 .....	31.38
1940-1944.....	37.72	1944-1948 .....	30.31

Two comparative tables and graphs are shown below to indicate the differential rates at age groupings within the first year and from various grouped causes of death in children under one year of age.

TABLE VI.—*New South Wales.*

Infantile Mortality According to Age Rate of Mortality per 1,000 Live Births.

Year.	Class 1. Parasitic and Infectious Diseases.	Classes 2, 3, 4 and 5. General Disease of the Blood and Chronic Poisonings.	Class 6. Diseases of the Nervous System.	Class 7. Diseases of the Circulatory System.	Class 8. Diseases of the Respiratory System.	Class 9. Diseases of the Digestive System— Diarrhoea and Enteritis.	Class 10. Diseases of the Genito- Urinary System.	Classes 12 and 13. Diseases of the Skin, Cellular Tissue and Bones.	Classes 14 and 15. Malforma- tion and Disease peculiar to early Infancy.	Class 17. Violent or Accidental Deaths.	Class 18. Causes of Death not determined.	Total, All Causes.
1931	4.46	.84	.54	.02	4.95	5.07	.21	.34	26.57	.48	.04	43.52
1932	2.65	.27	.91	.02	4.54	3.56	.14	.31	27.55	1.09	.02	41.06
1933	1.88	.50	.77	.02	4.91	2.85	.16	.30	26.97	.97	.02	39.35
1934	5.17	.60	1.06	.07	5.95	3.30	.14	.26	29.03	.69	.09	46.36
1935	2.60	.36	.81	.11	4.39	2.48	.27	.24	27.40	.69	.09	39.44
1936	3.10	.59	1.00	.02	5.52	3.01	.43	.15	28.88	.71	.06	43.47
1937	2.51	.51	.67	.02	4.27	2.97	.15	.25	28.38	.95	...	40.68
1938	2.58	.66	.99	.06	4.92	3.19	.21	.19	27.92	1.12	...	41.84
1939	1.98	.35	.96	.08	4.25	3.81	.13	.21	27.27	1.98	...	41.02
1940	2.03	.51	1.05	.08	4.74	3.40	.16	.18	26.02	.83	.02	39.02
1941	2.69	.64	.87	.13	4.45	3.50	.25	.13	30.37	.68	.06	43.77
1942	2.18	.59	1.06	.13	5.68	3.29	.17	.04	26.27	.76	.02	40.19
1943	2.22	.49	1.10	.12	4.09	2.39	.24	.10	24.41	.84	.18	36.18
1944	1.19	.40	.64	.06	3.24	1.58	.07	.12	22.49	.74	.15	30.68
1945	1.43	.47	.81	...	3.23	1.59	.05	.11	22.20	.69	.05	30.63
1946	1.40	.30	.57	.07	3.35	1.23	.06	.07	22.25	.79	.13	30.22
1947	1.11	.36	.76	.04	3.27	1.20	.04	.10	22.13	.74	.06	29.81
1948	1.18	.46	.62	.03	3.78	2.20	.12	.04	21.11	.67	.01	30.30

Table VI shows the loss of infant life at different age groups. The greatest loss is in the neonatal period where within the first week the rate in 1948 was 18.38, and in the

next three weeks of life 2.95; the total rate in the first month of life being 21.33.

TABLE VII.  
*New South Wales—Infantile Mortality According to Age.*

Rate of Mortality per 1,000 Live Births.

Year.	Under 1 Week.	1 Week and under 1 Month.	Total under 1 Month.	1 Month and under 3 Months.	Total under 3 Months.	3 Months and under 6 Months.	6 Months and under 12 Months.	Total under 1 year.
1931	21.58	5.22	26.80	4.11	30.91	4.61	8.00	43.52
1932	22.94	4.72	27.66	3.58	31.24	3.07	6.75	41.06
1933	21.90	5.70	27.60	3.42	31.02	2.88	5.45	39.35
1934	24.02	5.12	29.14	4.94	34.08	4.76	7.52	46.36
1935	22.99	4.77	27.76	3.44	31.20	2.87	5.37	39.44
1936	23.64	5.93	29.57	4.07	33.64	3.66	6.17	43.47
1937	22.80	5.58	28.38	3.10	31.48	3.05	6.15	40.68
1938	23.42	4.48	27.90	3.80	31.70	3.46	6.68	41.84
1939	22.96	4.48	27.44	2.48	29.92	3.56	7.54	41.02
1940	21.12	4.46	25.58	3.85	29.43	3.62	5.97	39.02
1941	23.55	5.97	29.52	4.23	33.75	4.18	5.84	43.77
1942	20.97	4.52	25.49	3.97	29.46	4.27	6.46	40.19
1943	19.61	4.23	23.84	3.56	27.40	3.42	5.36	36.18
1944	18.30	3.66	21.96	2.16	24.12	2.38	4.18	30.68
1945	18.28	3.52	21.80	2.43	24.23	2.61	3.79	30.63
1946	18.82	3.14	21.96	2.19	24.15	2.37	3.70	30.22
1947	18.22	3.24	21.46	2.26	23.72	2.51	3.58	29.81
1948	18.38	2.95	21.33	2.47	23.80	2.60	3.90	30.30

Table VII shows the mortality rate of children under one year of age in groups of causes of death representing the various classes of the International List of Causes of Death.

Combined classes 14 and 15, "malformations and diseases peculiar to the first year of life" show the highest rate in each year. The rate of 21.11 for these combined classes in

1948 is the lowest on record, but it is only within the last six years that this rate has shown any substantial improvement.

Respiratory diseases represent the next largest group shown in the table and here again the rates for the last five years are consistently on a lower level than previously. This group does not include "atelectasis" which, as a cause of death in children under one year of age, is grouped in "diseases peculiar to the first year of life".

### PART III—PRE-SCHOOL HEALTH SERVICE.

#### Report on the Medical Supervision of Day Nurseries and Nursery Schools for the year 1948.

The fourteen Day Nurseries and Nursery schools which were supervised by the Departmental Medical Officers during 1947 were again supervised by them during 1948. Dr. Bertram was responsible for Woolloomooloo, North Sydney and Mosman. Dr. Henderson undertook Herne Bay, Forest Lodge and Newtown, the remainder were supervised by Dr. Puleston-Jones.

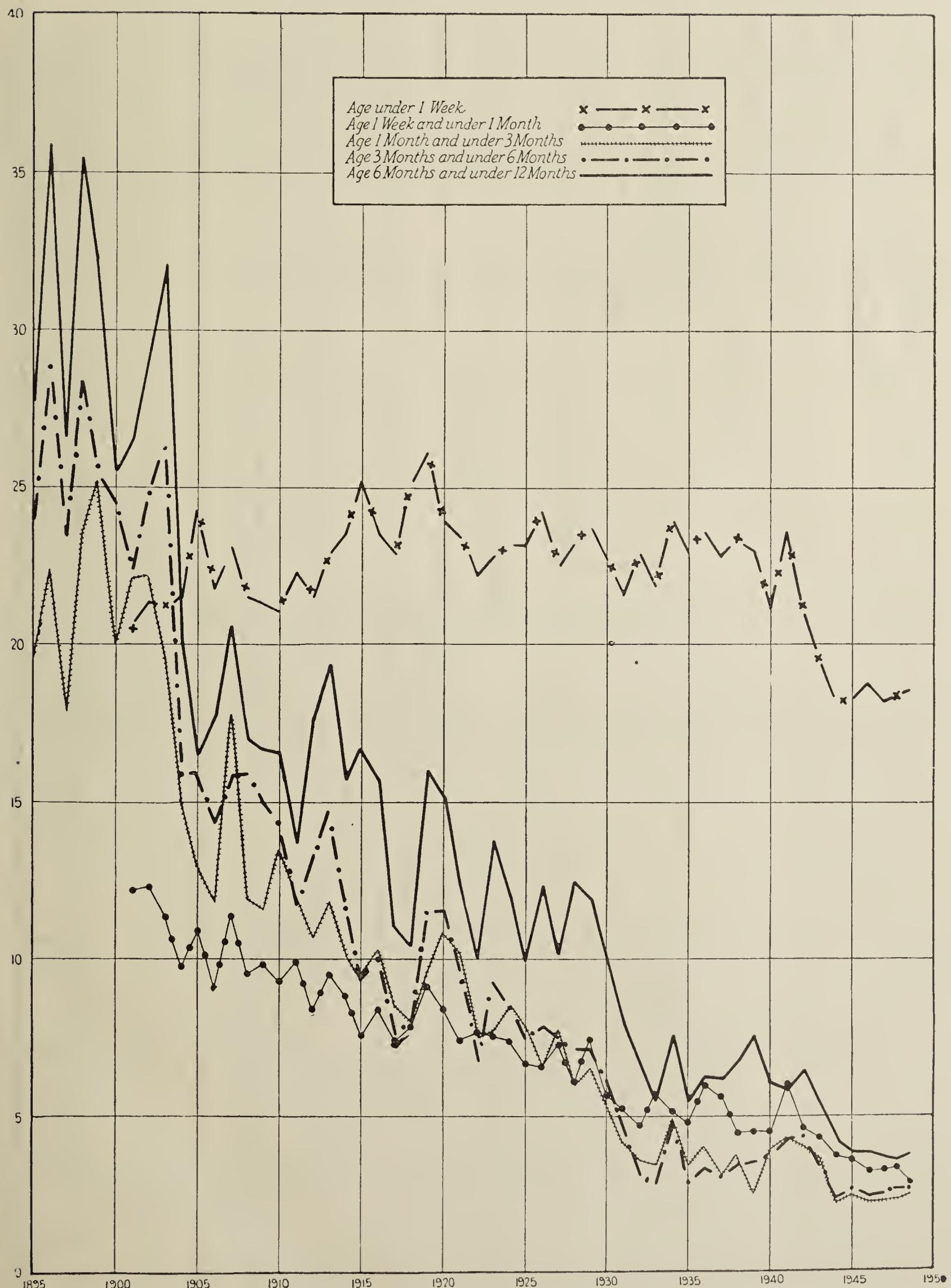
Sixteen hundred and twenty-five children were examined during one hundred and sixty-six visits. Difficulty continues to be experienced in interviewing the parents, it appears that this is emphasised by the greater reluctance of employers to allow time off since the introduction of the forty-hour week,

and therefore it is not possible for the mothers to attend during the time of the doctors' visits. At one Day Nursery (Forest Lodge), however, the parent of every child was interviewed at the child's first examination. This would indicate that, if the Matron and Director co-operated fully, the parents could be interviewed during the doctor's visit and thus a very much more satisfactory service could be effected.

In addition to the above examinations, ninety-six children were seen for some specific reason in between their routine six monthly examination.

## INFANTILE MORTALITY, NEW SOUTH WALES

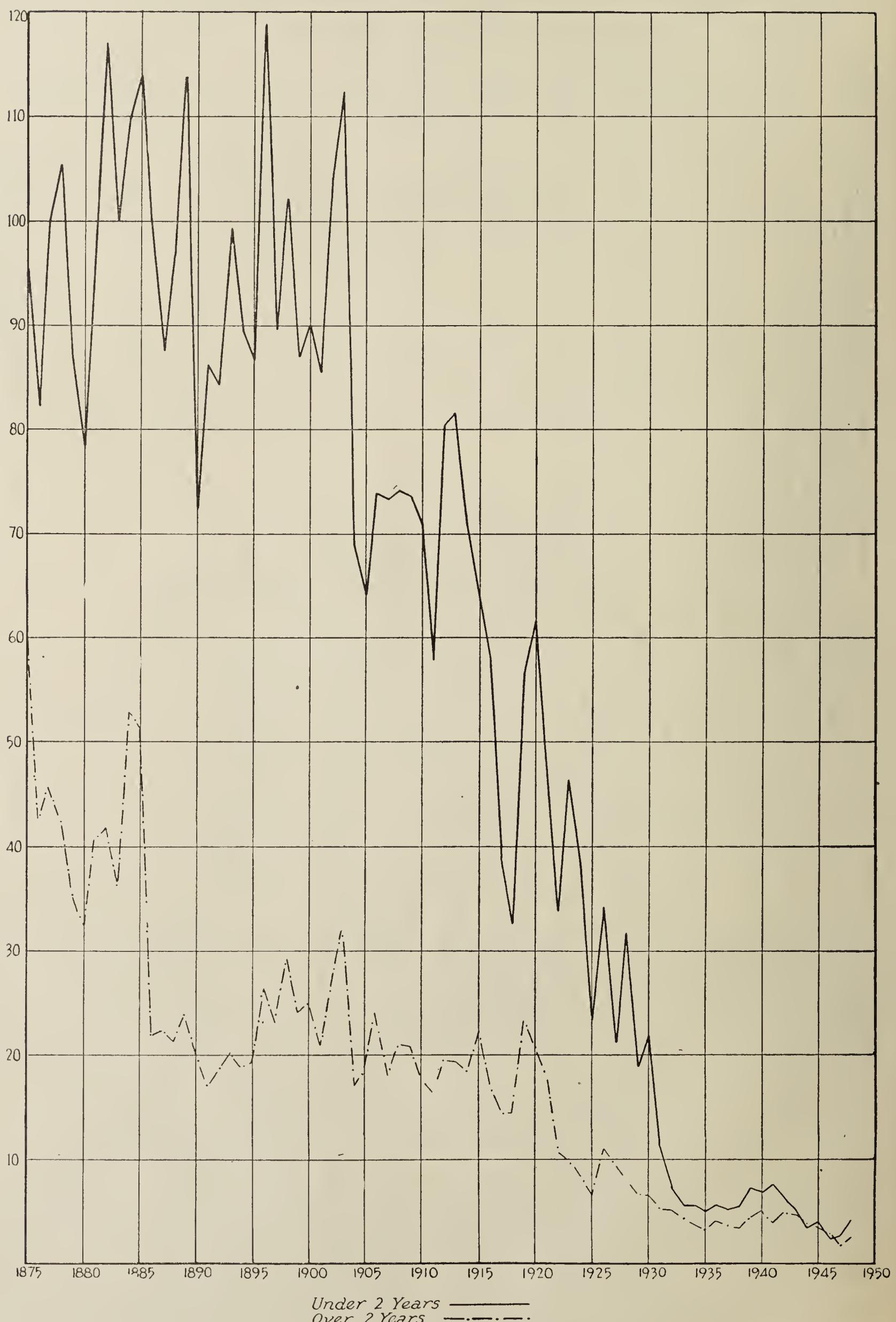
In Age Periods under 1 Year, from 1895-1948



Graph 13

## DIARRHOEA AND ENTERITIS

Annual Death Rate per 100,000 of the Population in New South Wales, 1875-1948



Graph 14

TABLE I.

	Woolloomooloo.	Forest Lodge.	North Sydney.	Paddington	Redfern.	Marrickville.	Kingsford.	Mosman.	Herne Bay.	Waverley.	Newtown.	Erskineville.	Katocmba.	Surry Hills.	Totals.
Sessions .....	13	14	13	13	14	10	9	10	14	12	12	14	4	14	166
First examinations .....	71	56	52	74	81	39	37	51	75	59	45	69	23	78	810
Parents .....	15	57	11	12	28	9	9	27	65	9	42	19	18	15	356
Subsequent examination ...	72	72	98	70	79	53	54	44	9	55	66	58	22	63	815
Occasional examination .....	2	10	11	5	12	10	15	1	7	2	10	8	3	3	96
Dental caries .....	9	10	3	11	7	12	4	5	6	10	11	11	12	8	119
Not immunized.....	23	14	19	6	1	1	2	3	10	...	2	9	6	1	97
Enlarged Glands—															
Observation .....	5	43	5	30	28	26	27	2	26	12	16	29	12	24	285
Treatment .....	13	27	9	14	10	11	10	8	13	5	39	7	4	23	193
Enlarged Tonsils—															
Observation .....	4	22	6	13	16	16	14	7	18	25	12	17	6	3	176
Treatment .....	13	28	11	13	8	9	8	9	11	5	25	9	4	8	161
Nutrition—															
Excellent .....	16	21	27	13	11	7	2	19	7	13	12	9	6	10	173
Good .....	56	98	46	106	120	79	73	32	67	88	88	98	32	103	1,088
Fair .....	45	9	56	22	29	6	14	35	9	12	11	18	7	23	296
Bad...	26	..	19	3	..	..	2	9	1	1	..	2	..	5	68
Knock Knee—															
Observation .....	..	4	..	3	3	1	4	..	2	1	1	1	..	..	20
Treatment .....	25	7	20	7	4	5	8	23	6	6	10	3	..	..	124
Flat Feet—															
Observation .....	..	3	..	4	7	..	2	..	2	3	2	3	3	1	30
Treatment .....	24	8	25	2	2	1	8	14	6	8	10	1	3	3	115
Infectious Diseases—															
Measles .....	29	19	28	47	33	21	35	29	12	13	2	30	..	2	294
Mumps .....	4	..	2	12	11	..	1	2	1	7	2	20	..	..	62
Chicken Pox .....	15	..	13	15	3	..	..	..	5	5	20	13	..	1	90
Scarlet Fever .....	..	..	..	..	..	1	..	..	..	..	..	..	1	..	2
Whooping Cough .....	11	..	..	7	11	1	2	2	3	11	7	3	1	1	59
German Measles .....	..	..	..	..	..	..	..	..	..	..	..	..	2	2	2
Diphtheria .....	..	..	..	..	..	..	..	..	2	..	..	..	..	..	2

*Nutrition.*—It was decided that the classifications of Nutrition into Good, Fair, Bad should be further sub-divided into Excellent, Good, Fair and Bad, but this sub-division was not started until July, which means that the Excellent and Good figures during 1948 will not be comparable with any other year when taken separately, but the Excellent and Good total, which amounts to 1,261, corresponds to the Good of the previous year which amounted to 1,089. This is 77.6 per cent. of the total number examined, and this is equivalent to 66.6 per cent. in 1947. Which would seem to indicate that the general standard of nutrition at the Nurseries has risen another 10 per cent. on the previous year and 30 per cent. on the 1946 figures. The "Fair" and "Bad" figures show a further reduction on last year, being only 18.2 per cent. Fair and

4.1 per cent. Bad, as compared with 26.7 per cent. Fair and 6.6 per cent. Bad in 1947. During 1946 the figures were 38.9 per cent Fair and 13.7 per cent. Bad.

*Other Conditions not listed above.*—Phimosis was the most common. Forty-six were found to need circumcision. The next most common condition was bad posture of which there were forty—most of these occurred in the 4-5 years group. Twenty-four children suffered from repeated and recurrent attacks of Urticaria. Many of these are attending an Allergy Clinic; twenty children had an Umbilical Hernia, which required attention, and sixteen children had strabismus requiring treatment. Other conditions found only in a few children are shown in Table II.

TABLE II.

	Erskineville.	Redfern.	Paddington.	Surry Hills.	Woolloomooloo.	North Sydney.	Forest Lodge.	Newtown.	Mosman.	Kingsford.	Herne Bay.	Katoomba.	Marrickville.	Waverley.	Totals.
Squint .....	1	1	1	1	1	1	3	1	11	1	4	1	1	1	16
Acute tonsilitis .....	2	1	1	1	1	1	1	1	11	1	2	1	2	2	8
Bad posture .....	3	3	1	1	1	1	1	1	11	1	1	1	1	1	40
Undescended testes .....	3	2	1	1	1	1	1	1	11	1	1	1	1	1	13
Hives .....	2	4	2	2	2	1	2	1	11	1	1	1	1	1	24
Bronchitis .....	1	5	3	3	3	1	3	1	11	1	1	1	1	1	13
Umbilical hernia .....	1	2	1	1	1	1	2	1	11	1	1	1	1	1	20
Inguinal hernia .....	1	9	5	5	5	5	6	2	11	1	1	1	1	1	1
Phimosis .....	3	1	1	1	1	1	1	1	11	1	1	1	1	1	46
Bow legs .....	1	1	1	1	1	1	1	1	11	1	1	1	1	1	5
Congenital heart .....	1	1	1	1	1	1	1	1	11	1	1	1	1	1	5
Scabies .....	1	1	1	1	1	1	1	1	11	1	1	1	1	1	3
Blepharitis .....	1	1	1	1	1	1	1	1	11	1	1	1	1	1	1
Ringworm .....	1	1	1	1	1	1	1	1	11	1	1	1	1	1	1
Conjunctivitis .....	1	5	1	1	1	1	1	1	11	1	1	1	1	1	4
Septic sores .....	1	1	1	1	1	1	1	1	11	1	1	1	1	1	1
Prolapsed rectum .....	1	1	1	1	1	1	1	1	11	1	1	1	1	1	4
Boils .....	1	4	1	1	1	1	2	1	11	1	1	1	1	1	6
Anaemia .....	2	1	1	1	1	1	1	1	11	1	1	1	1	1	2
Malnutrition .....	1	1	1	1	1	1	1	1	11	1	1	1	1	1	2
Herpes .....	1	1	1	1	1	1	1	1	11	1	1	1	1	1	1

TABLE II—*continued.*

	Erskineville.	Redfern.	Paddington.	Surry Hills.	Woolloomooloo.	North Sydney.	Forest Lodge.	Newtown.	Mosman.	Kingsford.	Herne Bay.	Katoomba.	Marrickville.	Waverley.	Totals.
Asthma .....			1												2
Stye .....	1														2
Systolic murmur .....		1													3
Pigeon toes .....		1													2
Pneumonia .....		1													1
Phyringitis .....		1													2
Protruding umbilicus .....			1												1
Otorrhoea .....				3											4
Eczema .....	1														3
Furunculosis .....															2
Spastic paralysis .....															1
Urethritis .....															1
Talipes .....															4
Rickets .....															4
Otitis media* .....															4
Haeanginia .....															2
Webbed toes .....															5
Impetigo .....															4
Hypospadias .....															1
Debility .....															3
Cerebral palsy .....															1
Fractured leg .....															1
Adherent foreskin .....															7
Photophobia .....															1
P.U.O. ....															1
Herpes labialis .....															1
Antritis .....															2
Warts .....	1														5
Epistaxis .....															1
Myopia .....															1
Haematoma .....															1
Thread worms .....															2
Coeliac disease .....															1
Cong. Cataract .....															1
Concussion.....															1
Deformity of toes .....															1
Cong. absence of Iris .....															1
Greenstick fracture .....															1

#### Report on Medical Supervision of Kindergartens, 1948.

Twenty-eight Kindergartens were supervised by the Departmental Medical Officers during the year. Bradfield Park was first supervised in August. Wickham and Waratah, at Newcastle, in February, and Hargrave Park in March.

Each child has a biannual examination and parents are interviewed at the first visit and subsequently when necessary; there were 986 parent interviews. The medical supervision was conducted during 242 half-day sessions, when 2,519 children were examined. In addition, 116 special examinations were made.

*Nutrition.*—The general standard of nutrition again showed a definite improvement on last year, as is seen in the following table:—

#### *Nutrition.*

	1946	1947	1948
	Per cent.	Per cent.	Per cent.
Good.....	54.2	75.5	87.3 (11.8 per cent. excellent). (88.1 per cent. good).
Fair .....	39.6	22.5	11.6
Bad .....	6.2	1.9	1.1

In Newcastle, at the newly established Waratah Kindergarten, no hot mid-day meal is provided, but this facility is arranged for Wickham.

In Sydney the newly established Hargrave Park Kindergarten provides this facility, but (at Bradfield Park) there are two groups, one morning and one afternoon and a meal is not provided.

TABLE II.—Nutrition—1948.

Kindergarten.	Enlarged.											Nutrition.	Knock Knee.	Flat Feet.	Infectious Diseases.										
	Glands.		Tonsils.		Treatment.			Treatment.			Treatment.			Treatment.			Treatment.			Treatment.					
	Sessions.	1st Examination.	Parents.	Subsequent Examinations.	Occasional Examinations.	Dental Caries.	Not Immunized.	Observation.	Treatment.	Observation.	Treatment.	Excellent.	Good.	Fair.	Bad.	Observation.	Treatment.	Measles.	Mumps.	Scarlet Fever.	Chicken Pox.	Whooping Cough.	German Measles.	Meningitis.	
East Chatswood .....	9	39	44	55	4	8	3	19	5	13	5	16	66	12	6	2	2	5	9	2	1	7	1	1	
Eastwood .....	4	41	32	59	1	1	1	14	1	2	1	5	34	2	2	1	1	2	1	3	3	2	2	1	
Blue Bird .....	8	25	11	59	2	5	2	35	2	9	3	5	72	6	1	1	1	45	13	1	1	1	1	1	
Cheltenham .....	9	30	28	57	2	5	2	26	10	14	10	12	66	9	7	1	1	1	3	3	1	1	1	1	
Globe .....	9	35	35	62	5	11	4	22	9	9	9	8	79	10	1	1	1	1	1	1	1	1	1	1	
Ellen Desailly .....	11	29	37	107	2	39	3	21	6	12	10	7	114	15	2	1	1	5	13	1	1	1	1	1	
Francis Newton .....	9	37	30	59	2	29	5	16	7	14	7	8	68	18	1	1	1	8	2	2	2	1	1	1	
Harold Wheen .....	11	39	49	73	8	30	6	28	9	15	9	9	85	17	1	1	1	8	2	2	2	1	1	1	
Killara .....	9	29	33	100	4	9	1	43	9	10	6	29	95	4	1	1	1	7	2	2	2	1	1	1	
Lance .....	9	28	31	57	5	20	6	31	4	14	8	8	67	8	2	1	1	8	2	2	2	1	1	1	
Leichhardt .....	7	24	13	53	5	11	3	25	10	7	12	5	68	4	1	1	1	7	2	2	2	1	1	1	
Little Citizens .....	8	24	28	61	3	16	2	23	6	6	5	2	68	15	1	1	1	8	2	2	2	1	1	1	
Newtown .....	9	18	16	60	7	11	1	19	27	12	21	18	56	4	1	1	1	7	2	2	2	1	1	1	
Parramatta .....	8	33	28	83	3	27	3	34	18	11	15	3	106	7	1	1	1	7	2	2	2	1	1	1	
Peter Pan .....	13	71	76	72	8	17	8	31	9	24	12	9	81	45	1	1	1	8	2	2	2	1	1	1	
Phoenix .....	7	48	47	23	1	26	6	16	11	9	10	9	54	6	2	1	1	8	2	2	2	1	1	1	
Surry Hills .....	7	22	25	60	3	16	2	17	21	10	15	2	68	12	1	1	1	8	2	2	2	1	1	1	
Sunbeam .....	9	23	25	55	7	17	1	35	6	12	9	5	66	5	2	1	1	8	2	2	2	1	1	1	
Samuel Cohen .....	6	22	25	46	4	28	9	11	5	10	3	3	52	12	1	1	1	6	1	1	1	1	1	1	
Waverley .....	9	28	34	62	4	11	3	27	10	10	9	6	73	11	1	1	1	6	1	1	1	1	1	1	
Crusader .....	9	49	44	43	3	19	2	25	8	10	9	12	65	14	1	1	1	13	8	1	1	1	1	1	
Croydon .....	10	37	32	58	5	15	2	26	8	11	8	13	69	12	1	1	1	13	9	1	1	1	1	1	
Petersham .....	8	32	38	26	4	15	2	19	2	10	2	5	51	2	1	1	1	9	10	1	1	2	1	1	
Golden Fleece .....	12	32	40	69	18	34	32	18	17	14	3	3	76	21	1	1	1	8	1	1	1	7	1	1	
Hargrave Park .....	13	110	30	24	8	39	11	16	24	38	31	21	98	11	4	5	5	7	1	1	1	2	1	1	
Wickham .....	9	65	65	27	...	26	1	27	10	19	12	8	77	7	2	3	2	1	6	16	4	1	1	1	
Waratah .....	3	49	49	8	...	7	1	13	3	5	4	12	44	1	1	1	1	1	23	1	1	1	1	1	
Bradfield Park .....	7	41	41	...	2	8	4	13	9	12	7	17	21	3	1	1	1	3	1	1	1	1	8	1	
Totals .....	242	1,060	986	1,459	116	536	81	632	273	340	273	260	1,939	293	27	47	145	65	190	345	46	1	84	36	2

It will be seen that the classification has been slightly altered this year in that tonsils and glands have been divided up into enlarged tonsils requiring observation and those requiring treatment. The nutrition has also been slightly altered so as to divide those whose nutrition was "Good" into "Excellent" and "Good" as it was felt that there was too great a difference between the best and the worst of those classified as "Good" to be able to bring them under one heading.

When the 87.3 per cent. "Goods" were further analysed, it was found that 11.8 per cent. of these could be classified as "Excellent" and 88.1 per cent. as "Good". 11.6 per cent. were classified as "Fair" and only 1.1 per cent. had to be classified as "Poor" or "Bad".

*Enlarged Glands and Tonsils.*—Of the 2,519 children examined, 31.9 per cent. of them were found to have enlarged glands and 24.3 per cent. to have enlarged tonsils. 78 per cent. of the enlarged glands were to be observed for a period of six months, the remaining 22 per cent. were considered to require immediate treatment. 55.4 per cent. of the enlarged tonsils were to be observed for six months and 44.6 per cent. required immediate treatment either by operation for their removal or some local medical treatment.

*Dental Caries.*—Five hundred and thirty-six children required dental treatment; this represents 21 per cent. of all those examined, which is not quite as good as 1947, when the figure was 19.4 per cent. This is possibly accounted for by the fact that for most of the year there was no dentist attending the Day Nurseries so the children of Peter Pan, Surry Hills, Little Citizens and Globe were not able to have the usual dental care.

*Immunizations.*—Eighty-one children had not been immunized for Diphtheria; this represent 3.2 per cent. of the total number of children examined, as against 3.8 per cent. during 1947.

*Other Conditions.*—The frequent occurrence of knock knees and flat feet was again noted. 7.6 per cent. of all children examined had some degree of knock knees, and 10.1 per cent. of all children examined had some degree of flat feet. This is not much different from last year as seen from the following table:—

	1947	1948
Knock Knee .....	9%	7.6%
Flat Feet .....	10.3%	10.1%

TABLE III.—1948.

Forty-one children had some degree of bad posture. Other abnormal conditions are set out in the following table:—

	Bradfield Park.	Eastwood	East Chatswood.	Blue Bird.	Cheltenham.	Globe.	Ellen Desailly.	Francis Newton.	Harold Wheen.	Killara.	Lance.	Leichhardt.	Little Citizens.	Newtown.	Parramatta	Peter Pan.	Phoenix.	Surry Hills.	Sunbeam.	Samuel Cohen.	Waverley.	Crusader.	Croydon.	Petersham.	Golden Fleece.	Hargrave Park.	Wickham.	Waratah.	Total, 1948.
Squint .....	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	17	
Deaf .....			1	1	1	2																					10		
Acute Tonsillitis .....			1	1	1	2																					9		
Deformed chest .....			1	1	1	2																					3		
Bad posture .....			1	1	1	2																					41		
Bells palsy .....			1	1	1	2																					2		
Xeroderma .....			1	1	1	2																					17		
Undesc. testes .....			1	1	1	2																					21		
Hives .....			1	1	1	2																					1		
Cong. cataract .....			1	1	1	2																					28		
Bronchitis .....			1	1	1	2																					2		
Obesity .....			1	1	1	2																					2		
Left inguinal hernia .....			1	1	1	2																					1		
Umb. hernia .....			1	1	1	2																					15		
Protruding umbilicus .....			1	1	1	2																					5		
Malnutrition .....			1	1	1	2																					4		
Pigeon toes .....			1	1	1	2																					4		
Warts .....			1	1	1	2																					8		
Asthma .....			1	1	1	2																					5		
Rheumatic carditis .....			1	1	1	2																					1		
Hammer toe .....			1	1	1	2																					2		
Cretin .....			1	1	1	2																					1		
Septic sores .....			1	1	1	2																					6		
Eczema .....			1	1	1	2																					4		
Gum boil .....			1	1	1	2																					3		
Speech impediment .....			1	1	1	2																					4		
Scabies .....			1	1	1	2																					2		
Cellulitis of leg .....			1	1	1	2																					1		
Ringworm .....			1	1	1	2																					8		
Meibomian cyst .....			1	1	1	2																					2		
Rhinitis .....			1	1	1	2																					1		
Conjunctivitis .....			1	1	1	2																					2		
Dermatitis .....			1	1	1	2																					1		
Cong. heart .....			1	1	1	2																					1		
Phimosis .....			1	1	1	2																					19		
Otitis media .....			1	1	1	2																					11		
Acne .....			1	1	1	2																					1		
Stuttering .....			1	1	1	2																					1		
Laryngitis .....			1	1	1	2																					1		
Hypopadias .....			1	1	1	2																					3		
Fractured thumb .....			1	1	1	2																					1		
Ganglion .....			1	1	1	2																					1		
Mongol .....			1	1	1	2																					1		
Impetigo .....			1	1	1	2																					2		
Alveolar abscess .....			1	1	1	2																					1		
Blepharitis .....			1	1	1	2																					1		
Anaemia .....			1	1	1	2																					6		
Mental deficiency .....			1	1	1	2																					4		
Discharging umbilicus .....			1	1	1	2																					1		
Boils .....			1	1	1	2																					1		
Stye .....			1	1	1	2																					1		
Vincent's Angina .....			1	1	1	2																					2		
Spastic hemiplegia .....			1	1	1	2																					1		
Cong. nystagmus .....		</td																											

## E. TUBERCULOSIS DIVISION.

### REPORT OF THE DIRECTOR FOR THE YEAR ENDED 31ST DECEMBER, 1948.

#### **Staff.**

Director, Deputy-Director, one clerk, ten visiting nurses.

#### **Notifications.**

One thousand seven hundred and eleven cases of pulmonary tuberculosis were notified during 1948, of whom 1,066 were males and 645 females. The age-groups chiefly concerned were: males 45-64 years (471 cases) and females 25-44 years (329 cases).

Total notifications showed a decrease of forty cases, as compared with those for the previous year.

#### **Deaths.**

Deaths from tuberculosis of the respiratory system numbered 771, including those of 539 males and 232 females. Other deaths from tuberculosis numbered 44, making a total of 815 deaths from all forms of the disease, a decrease of 50 compared with the previous year.

There were no deaths under 1 year of age during 1948.

#### **Sanatoria.**

The number of beds available in sanatoria and special hospitals is set out in Table 4. Owing to difficulties in obtaining suitable nursing and domestic staff it was found necessary to close a number of wards in institutions, the beds thus rendered unavailable being omitted from the total of 1,154 available beds shown.

#### **Clinics.**

During the year eight special chest clinics were in operation, seven in the metropolitan district of Sydney and one at Newcastle. A comparison of the activities of these clinics is shown in Table 8.

In the metropolitan clinics there was an increase of 5,043 X-ray examinations, compared with the previous year, and in the Newcastle clinic a decrease of 142.

#### **Private Group X-Ray Services.**

By arrangement with specialist radiologists in Sydney, group X-ray services were available daily from Monday to Saturday, inclusive, throughout the year. A total of 16,902 examinations were completed under this scheme during the year, representing an increase of over 900, compared with those in 1947.

#### **Educational Activities.**

In addition to the distribution of leaflets and pamphlets carried by the Division, special exhibits were shown at a number of agricultural shows in country towns. Broadcasts were given at intervals, and special lectures were given by the Deputy-Director at various centres. These activities were evidently appreciated by the audiences, and resulted in numerous inquiries from members of the public. The stimulation of public co-operation in this way may be regarded as an important development in recent years, which it is hoped to extend further.

During the latter part of the year the Director was absent on an extended investigation of public health administration overseas, taking up other duties on his return. It is desired to express his very deep appreciation of the co-operation he has received from the staff of the Division over a period of more than fourteen years, during which time continued progress has been made in the reduction of tuberculosis in this State, to which the unfailing devotion to duty of the staff of the Division, often under great difficulty, has largely contributed.

The thanks of the Division are extended to all those agencies, both voluntary and governmental, which have assisted in its work during the year.

#### **Notifications.**

TABLE 1.—Showing the age and sex incidence of the cases of Pulmonary Tuberculosis notified during the year 1948.

Age Period.	Metropolitan Combined Sanitary District. Mean Population.			Hunter River Combined Sanitary District. Mean Population.			Broken Hill Combined Sanitary District. Mean Population.			South Coast Health District. Mean Population.			Mitchell Health District. Mean Population.			Richmond-Tweed Health District. Mean Population.			Remainder of State. Population.			Whole of State. Population.		
	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total
Under 1 year .....	2	...	2	2	...	1	1	...	...	1	...	1	1	...	1	1	...	2	1	3	...	6	3	9
1-4 .....	2	2	4	1	...	1	...	...	...	1	...	1	1	...	1	1	...	4	1	5	10	14	24	
5-14 .....	3	8	11	2	...	2	...	...	...	1	3	4	...	1	1	...	1	1	...	75	161	236		
15-24 .....	59	115	174	4	14	18	...	2	2	3	2	5	...	4	4	...	4	4	9	20	29	75	161	236
25-34 .....	136	121	257	10	15	25	...	...	...	3	5	8	1	4	5	1	2	3	9	21	30	160	168	328
35-44 .....	133	97	230	8	4	12	1	1	2	2	2	4	4	1	5	2	3	5	24	18	42	174	126	300
45-54 .....	165	43	208	4	5	9	2	...	2	7	2	9	4	4	8	2	...	2	29	11	40	213	65	278
55-64 .....	187	43	230	13	1	14	5	...	5	6	...	6	8	2	10	4	3	7	35	9	44	258	58	316
65 and over .....	103	26	129	11	2	13	5	...	5	3	...	3	5	4	9	7	3	10	34	14	48	168	49	217
All ages .....	790	455	1,245	53	42	95	13	3	16	26	14	40	22	20	42	16	16	32	146	95	241	1,066	645	1,711

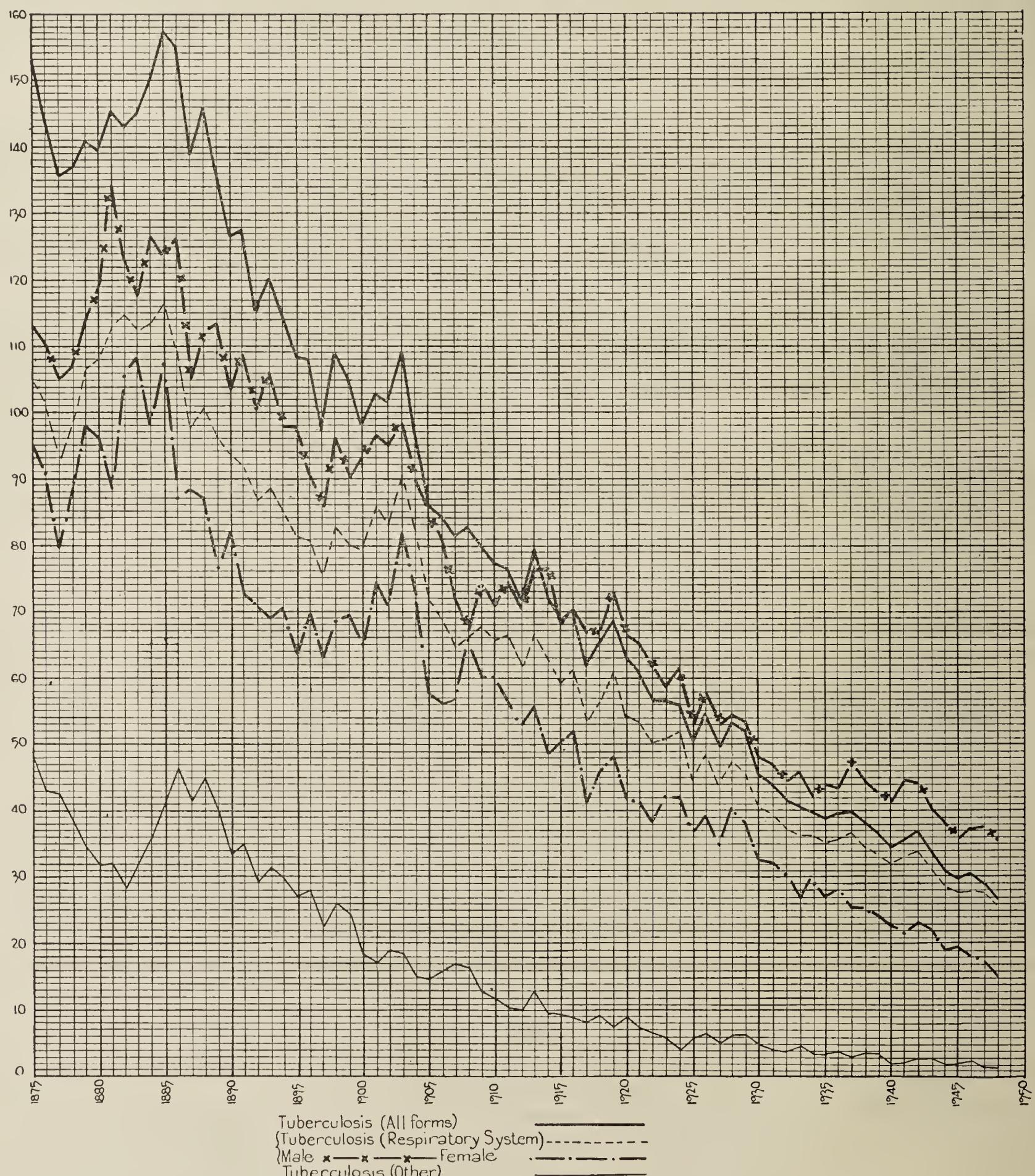
#### **Deaths.**

TABLE 2.—Showing the number of deaths from all forms of Tuberculosis in (a) Metropolis, (b) whole State, during the year ended 31st December, 1948.

	Metropolis.			Whole State.		
	Males.	Females.	Total.	Males.	Females.	Total.
Respiratory system .....	371	162	533	539	232	771
Meninges and nervous system.....	6	4	10	9	6	15
Other .....	14	9	23	19	10	29
Total .....	391	175	566	567	248	815

## TUBERCULOSIS

Annual Death Rate per 100,000 of the Population in New South Wales, 1875-1948



Graph 15

TABLE 3.—Showing the age and sex of the persons whose deaths from Pulmonary Tuberculosis were notified during the year ended 31st December, 1948.

Age Period.	Metropolitan Combined Sanitary District.			Hunter River Combined Sanitary District.			Broken Hill Combined Sanitary District.			South Coast Health District			Mitchell Health District.			Richmond-Tweed Health District.			Remainder of State Population.			Whole of State Population.				
	Mean Population.	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total	M.	F.	Total	
Under 1 year .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
1-4 .....	1	...	1	...	3	4	...	2	2	4	...	...	...	1	1	...	...	...	...	1	2	4	...	1	...	1
5-14 .....	1	3	4	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	1	2	5	5	14	19	
15-24 .....	3	8	11	...	2	2	4	...	...	...	1	2	3	...	1	1	...	...	...	2	3	5	5	14	19	
25-34 .....	32	50	82	...	2	2	4	...	...	...	1	2	3	...	1	1	...	...	...	4	9	13	39	64	103	
35-44 .....	47	28	75	5	3	8	2	...	2	3	2	5	6	1	7	1	...	1	10	12	22	74	46	120		
45-54 .....	83	27	110	9	2	11	2	...	2	7	3	10	3	3	6	3	1	4	15	4	19	122	40	162		
55-64 .....	122	21	143	11	3	14	2	...	2	5	1	6	6	2	8	2	...	...	29	4	33	175	31	206		
65 and over .....	82	25	107	10	2	12	2	...	2	1	...	1	4	2	6	2	1	3	20	3	23	121	33	154		
All ages .....	371	162	533	37	14	51	8	...	8	17	9	26	19	10	29	6	2	8	81	35	116	539	232	771		

TABLE 4.—Showing Institutional Accommodation available for patients suffering from Pulmonary Tuberculosis.

Santoria and Hospitals.	Type of Cases Received.	Number of Beds.		
		Male.	Female.	Total.
1. Waterfall Sanatorium (under Government control) .....	Intermediate .....	135	88	223
2. Randwick Auxiliary Hospital (under Government control) .....	Late .....	60	60	120
3. Queen Victoria Homes (subsidised)—				
Thirlmere .....	Early female .....	...	76	76
Wentworth Falls .....	Early male .....	54	...	54
4. Red Cross Society (subsidised)—				
" Bodington " at Wentworth Falls .....	Early male and female .....	100	...	100
" Malahide " at Pennant Hills .....	Late male and female .....	10	11	21
5. Eva Carr, Hordern Hospital .....	Female .....	...	12	12
6. R. T. Hall Sanatorium (subsidised) .....	Early female .....	...	16	16
7. Private Hospitals (approximately) .....	Male and female .....	...	...	89
8. Repatriation Department—				
Prince of Wales Hospital .....	Male .....	88	...	88
Lady Davidson Home .....	Male .....	276	...	276
9. Lidcombe State Hospital .....	Late male .....	30	...	30
10. Rankin Park Chest Hospital .....	Male and female .....	25	25	50
	Total .....			1,154

TABLE 5.—Showing number of patients receiving Institutional Treatment during 1948 in the Institutions shown.

	Queen Victoria Sanatorium, Wentworth Falls.	Queen Victoria Sanatorium, Thirlmere.	Red Cross Sanatorium, Bodington, Wentworth Falls.	Waterfall Sanatorium.	Red Cross Sanatorium Malahide, Pennant Hills.	R. T. Hall Sanatorium, Hazelbrook.	Randwick Auxiliary Hospital.
1. Number of patients in Institution on 1st Jan., 1948 .....	41	65	95	168	21	12	105
2. Number of patients admitted during 1948 .....	46	88	88	198	18	14	127
3. Number of patients discharged (including deaths) during 1948 .....	46	87	100	170	17	19	113
4. Number of patients remaining in Institution on 31st December, 1948	41	66	83	196	22	7	119
5. Average daily number of beds occupied .....	41.1	66.6	97.5	186	20.5	9	115

TABLE 6.—Showing the average residence in days and condition on discharge from Sanatoria and Hospitals of patients under treatment during 1948.

Condition on Discharge.	Queen Victoria Sanatorium, Wentworth Falls.		Queen Victoria Sanatorium, Thirlmere.		Red Cross Sanatorium, Bodington, Wentworth Falls.		Waterfall Sanatorium.		Red Cross Sanatorium, Malahide, Pennant Hills.		R. T. Hall Sanatorium, Hazelbrook.		Randwick Auxiliary Hospital.	
	No. of Patients.	Average Residence in Days.	No. of Patients.	Average Residence in Days.	No. of Patients.	Average Residence in Days.	No. of Patients.	Average Residence in Days.	No. of Patients.	Average Residence in Days.	No. of Patients.	Average Residence in Days.	No. of Patients.	Average Residence in Days.
1. Arrested (A.)	...	...	5	143	2	235	...	...	...	...	...	...	...	...
2. Quiescent (Q.)	11	375.54	41	316	19	436	1	2,134	...	...	...	...	...	...
3. Much Improved (M.I.)	18	436.16	23	349	2	284	2	1,181	4	386	12	266	2	404.5
4. Improved (I.)	9	337.7	8	274	48	259	46	769	1	437	5	151	22	726.95
5. Stationary (S.)	5	44.74	7	124	11	156	56	335	2	212	...	...	14	90.64
6. Worse (W.)	3	438	3	145	9	601	7	627	1	119	2	75	4	303
7. Dead (D.)	...	...	...	...	1	1,095	45	705	9	192	...	...	69	239
8. Doubtful Tuberculosis	...	...	...	...	8	332	...	...	...	...	...	...	2	...
Total	46	...	87	...	100	...	157	...	17	...	19	...	113	...

TABLE 7.—Showing condition of patients on admission to, and discharge from Institutions for the treatment of Pulmonary Tuberculosis during 1948.

Condition on Admission.	Queen Victoria Sanatorium, Wentworth Falls.							Queen Victoria Sanatorium, Thirlmere.							Red Cross Sanatorium, Bodington, Wentworth Falls.							Waterfall Sanatorium.									
	Condition on Discharge.							Condition on Discharge.							Condition on Discharge.							Condition on Discharge.									
	A.	Q.	M.I.	I.	S.	W.	D.	Total.	A.	Q.	M.I.	I.	S.	W.	D.	Total.	A.	Q.	M.I.	I.	S.	W.	D.	Total.	A.	Q.	M.I.	I.	S.	W.	D.
L1T1	...	2	...	...	...	...	...	2	5	...	...	...	...	...	...	5	1	...	1	13	1	1	...	17	...	...	...	3	2	...	5
L2T1	...	4	4	2	...	1	...	11	...	20	3	...	...	...	...	23	...	10	1	16	10	3	...	40	...	...	...	7	3	...	11
L1T2	...	1	...	...	...	...	...	1	...	21	20	8	7	...	...	56	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
L2T2	...	3	14	5	5	1	...	28	...	...	...	...	...	3	...	3	1	4	...	5	...	4	...	14	...	...	1	3	1	6	
L3T1	...	1	...	2	...	1	...	4	...	...	...	...	...	...	...	...	5	...	11	...	...	...	2	...	...	1	11	1	6	29	
L3T2	...	1	...	2	...	1	...	...	...	...	...	...	...	...	...	...	5	...	11	...	16	...	1	1	22	38	5	29	96		
L1T3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	...	...	...	...	...	2	...	...	...	...	...	...	...	
L2T3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	1	8	10		
L3T3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	1	2	46	56		
	...	11	18	9	5	3	...	46	5	41	23	8	7	3	...	87	2	19	2	48	11	9	1	92	...	1	2	46	56	7	45
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	157	
	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	**	
Condition on Admission.	Red Cross Sanatorium, Malahide, Pennant Hills.							R. T. Hall Sanatorium, Hazelbrook.							Randwick Auxiliary Hospital.																
	Condition on Discharge.							Condition on Discharge.							Condition on Discharge.																
	A.	Q.	M.I.	I.	S.	W.	D.	Total.	A.	Q.	M.I.	I.	S.	W.	D.	Total.	A.	Q.	M.I.	I.	S.	W.	D.	Total.	A.	Q.	M.I.	I.	S.	W.	D.
L1T1	...	...	...	2	...	...	...	...	...	...	...	1	1	...	...	9	3	...	1	...	13	...	...	...	...	...	...	...	...		
L2T1	...	...	...	2	...	...	...	2	...	...	1	1	...	...	1	1	...	2	...	2	...	...	...	...	...	...	...	...			
L1T2	...	...	...	2	1	...	...	3	...	...	1	1	...	1	1	...	1	...	3	...	...	3	3	...	...	...	6				
L2T2	...	...	...	2	1	...	...	3	...	...	1	1	...	1	1	...	1	...	1	...	...	1	9	5	...	15					
L3T1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...				
L3T2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	9	6	4	68	88					
L1T3	...	...	...	2	1	9	12	...	12	5	...	2	...	2	...	19	...	...	2	22	14	4	69	111							
L2T3	...	...	4	1	2	1	9	17	...	12	5	...	2	...	2	...	19	...	...	2	22	14	4	69	111						
L3T3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...				

\* Plus 8 cases of doubtful or inactive tuberculosis.

\*\* Plus 13 cases found not to be tuberculous.

\*\*\* Plus 2 cases found not to be tuberculous.

TABLE 8.—Comparative statement of work carried out by the Anti-Tuberculosis Clinics during period twelve months ended 30th June, 1948.

Particulars.	Royal Price Alfred Hospital.	Royal North Shore Hospital.	Anti- Tuberculosis Association of N.S.W.	Newcastle Hospital.	Canterbury District Memorial Hospital.	Manly District Hospital.	Sydney Hospital.	St. George District Hospital.
1. Total number of attendances (including contacts) .....	5,461	5,040	45,366	8,895	7,609	1,113	5,967	1,077
2. Number of new patients examined during the year (excluding contacts) .....	156	210	7,586	969	133	172	280	139
(a) Definitely tuberculous ...	93	94	141	59	90	31	102	82
(b) Non-tuberculous .....	52	96	7,425	904	40	141	133	50
(c) Diagnosis not completed	11	20	20	6	3	...	45	7
3. Number of contacts examined	304	192	1,569	1,263	330	108	207	226
(a) Definitely tuberculous ...	8	1	43	10	5	3	35	2
(b) Non-tuberculous .....	294	191	1,511	817	325	105	172	222
(c) Diagnosis not completed	2	(a)	15	436	(a)	(a)	(a)	2
4. Total number of nurses visits during year .....	2,192	4,061	4,125	770	929	726	1,848	452
5. Number of homes visited .....	1,750	1,096	3,726	366	418	131	798	155
6. Number of sputum examinations .....	369	311	2,869	391	*431	105	445	40
7. Number of X-ray examinations	3,771	1,765	15,824	2,146	2,410	533	2,005	418
(a) New cases .....	219	(a)	(a)	969	107	182	739	41
(b) Cases previously X-rayed at the Clinic .....	1,075	(a)	(a)	600	1,033	137	570	131
(c) Contacts—								
New .....	306	(a)	(a)	277	230	112	230	246
Old .....	2,171	(a)	(a)	300	1,040	102	466	...
8. Number of cases on Clinic Register to 30th June, 1948 .....	1,741	5,164	2,421	2,029	1,773	385	1,257	407
9. Total Number of Old Cases.....	710	(a)	2,250	1,206	430	273	358	37
10. Total number of Old Contacts	571	(a)	1,182	986	890	286	412	16

\* Includes Gastric Lavage.

(a) Information not available.

## F. DIVISION OF INDUSTRIAL HYGIENE.

### REPORT OF THE DIRECTOR, DIVISION OF INDUSTRIAL HYGIENE, FOR THE YEAR ENDED 31ST DECEMBER, 1948.

#### Staff.

*Director*.—Gordon C. Smith, M.B., B.S.

*Medical Officer*.—T. L. Dunn, M.B., B.S., D.P.H., D.T.M. & H.

*First Scientific Assistant*.—H. E. G. Rayner, B.Sc.

*Scientific Assistants*.—H. M. Whaite, B.E., J. L. Sullivan, A.S.T.C., C. L. Cullen, B.Sc., B.Ec.

*Laboratory Assistant*.—W. J. Brown.

*Shorthandwriter and Typist*.—Mrs. M. Hill.

#### General.

The Division of Industrial Hygiene undertakes the investigation of hazards to health in factories, mines and industry generally; the diagnosis of cases of occupational disease, and the ventilation of theatres and public halls, including the examination of proposed plans for mechanical ventilation of such places. It co-operates with the Department of Labour and Industry and Social Welfare in the prevention of industrial diseases and with the Mines Department in problems dealing with dust and ventilation in coal mines; also with Commonwealth and State authorities as the occasion demands.

Any person claiming to be affected by exposure to dangerous dusts, gases, fumes or to bad ventilation or other unsatisfactory conditions of work is entitled to an examination, which is carried out by the staff. At times an additional examination, such as an X-ray of the chest or a report of a skin condition by a dermatologist, is thought advisable and this extra service is available without cost to the worker. During the year 489 industrial workers (462 men and 27 women) were medically examined at the Division laboratories. Eighty-three (83) re-examinations were carried out.

Pathological examinations are made of the lungs of coal miners and workers in other dusty trades. Reports on these examinations are used in the determination of compensation claims by dependants.

Lectures and demonstrations are given periodically to groups of medical practitioners undertaking post-graduate studies; to factory inspectors, to University undergraduates in engineering, and to colliery officials studying for higher certificates.

The Director and three of the scientific assistants were members of the following committees of the Standards Association of Australia:—

- (1) Safety Standards Co-ordinating Committee;
- (2) The N.S.W. Committee on Code of General Principles for Safe Working in Industry;

- (3) The N.S.W. Committee on Statistics of Industrial Accidents;
- (4) Sectional Committee on Protective Occupation Clothing;
- (5) Committee dealing with S.A.A. Safety Code for the Application and Removal of Paints and Surface Finishes;
- (6) Committee on Refrigeration.

Because of its special knowledge and experience accumulated over the years, the Division has become the chief advisory body on industrial health matters to other Government departments, employers' and employees' organisations, insurance companies, medical practitioners and other persons.

Thus inquiries for information from a variety of sources are received, and many of these involve a thorough search of the industrial medical literature. In this way, a large amount of time is consumed without anything tangible to show for it, but the provision of this information service is a necessary and important part of the Division's work.

In this report a summary has been made of the more important field inquiries undertaken, and also of the results of examinations such as blood counts and chest X-rays carried out during the year. Tables show the number of cases of lead poisoning, occupational dermatitis, and pneumoconiosis, together with the occupations in which these diseases occurred. In regard to lead poisoning, practically all persons claiming to be affected by that disease would be examined by this Division, but many individuals with skin or pulmonary disease are examined by Insurance Companies or Compensation Boards, and only apply to this Division after compensation has been refused.

#### Post-Mortem Examinations of Lungs of Coal Miners and Workers in Other Dusty Trades.

Lung specimens from fourteen (14) individuals were received for examination for pneumoconiosis. In some cases the heart was also sent.

The lung specimens were examined pathologically and were chemically analysed for the amount of free and combined silica and free carbon. The details of the methods used in these post-mortem studies have been described in earlier reports of this Division.

The pathological and chemical findings of thirteen (13) specimens are shown in Table I.

TABLE I.—Showing the Pathological Findings and Chemical Analysis of the Lung Specimens of thirteen (13) Coal Mine Workers examined in the year 1948. Where a Coal Miner worked on more than one Coalfield, the last Mine at which he worked has been used for the purpose of Classification.

Case No.	Age.	Dusty Occupations, Mining, etc.		Pathology.	Milligrammes per gram of Dried Lung.					Content of Lungs (grams).				Remarks.
		Years of Work in—	Years since Work in—		Ash.	Free and Combined Silica.	Combined Silica.	Free Silica.	Carbon.	Free and Combined Silica.	Combined Silica.	Free Silica.	Carbon.	
231	55	41	2	COAL MINE WORKER—Pneumoconiosis—coal dust type—very early. Pneumonic changes. Slight atheroma in aorta and coronary arteries.	23.8	2.1	1.1	1.0	31.0	0.61	0.32	0.29	8.9	Wheeling and clipping at Mt. Kembla for 5 years; miner for 36 years—Mt. Kembla 4 years, Mt. Keira 10 years, Wongawilli 20 years, Avondale 1 year, South Scarborough 6 months. South Bulli 8 months.
234	73	34	3	Pneumoconiosis, coal dust type early. Coronary artery atheroma, advanced.	46.5	5.3	3.6	1.7	36.0	0.97	0.66	0.31	6.6	Miner at Corinal for 31 years; at other South Coast collieries for 3 years.
235	48	...	...	Slight pigmentation due to coal dust. Insufficient pathological change for diagnosis of pneumonoconiosis; coronary artery sclerosis.	23.4	2.8	0.5	2.3	10.0	0.47	0.08	0.39	1.7	No industrial history supplied.
236	57	37	0	Pneumoconiosis—coal dust type—very early. Coronary artery atheroma. Left ventricular hypertrophy (slight).	44.7	7.9	3.8	4.1	43.0	0.90	0.43	0.47	4.9	Wheeler for 3½ years on South Coast—Coalcliff for 33½ years; as horsebreaker, 3 years; shiftman, 5½ years; shiftman and groom, 25 years
232	55	25½	8	Pneumoconiosis—coal dust type, massive. Pulmonary tuberculosis.	36.9	3.5	2.1	1.4	145.0	1.45	0.87	0.58	60.0	Metropolitan—Token Boy, 6 months; clipper, 1 year; wheeling, 2 years. Kembla—wheeling, 1 year; Coledale—wheeling, 5 months; Scarborough—miner, 3 months; Coalcliff—miner 3 years; Tannymore (Q.)—miner 4 months; Metropolitan—miner, 22 years.
239	61	23+	"several months"	Pneumoconiosis, coal dust type, moderate.	35.0	6.0	1.9	4.1	84.0	0.94	0.3	0.64	13.1	Excelsior Colliery—Miner, 23 years.
241	55	24	9	Pneumoconiosis, coal dust type, moderate. Coronary artery atheroma.	46.1	7.1	1.5	5.6	109.0	1.87	0.4	1.47	28.7	Metropolitan for 24 years Miner 20 years, rest of time surface worker, wheeler and shiftman.
242	60	41	9	Bronchogenic carcinoma. Pneumoconiosis, coal dust type, very early. Early coronary atheroma.	26.9	2.1	0.2	1.9	12.0	0.45	0.04	0.41	2.6	Northumberland, England, 21 years. Mt. Keira, 12 years as miner and Mt. Keira, on surface 8 years.
243	66	28	9	Pneumoconiosis, coal dust type, early. Coronary artery atheroma.	39.7	2.8	1.3	1.5	69.0	0.75	0.35	0.4	18.7	South Bulli, miner for 28 years.
240	65	30	17	COAL MINE WORKER—Emphysema, chronic bronchitis	23.3	2.6	0.5	2.1	8.0	0.28	0.05	0.23	0.86	Killingworth—miner for 30 years No mining since 1930.
238	51	22	15	COAL MINE WORKER—Pneumoconiosis—coal dust type—very early.	38.09	2.6	0.5	2.1	12.0	0.58	0.11	0.47	2.7	Wheeler Scottish shale mine 2 years; Newnes Shale Mine, 5 years; State Coal Mine, 15 years; as miner for 10 years and shiftman for 5 years. Mining official since 1934.
233	...	...	...	Slight pigmentation due to carbonaceous dust. Myocardial fibrosis; coronary artery atheroma.	30.6	2.1	0.7	1.4	15.0	0.27	0.09	0.18	1.9	No industrial history given.
244	54	25	2	Pneumoconiosis, coal dust type, moderate. Emphysema.	33.7	3.7	1.5	2.2	55.5	0.54	0.22	0.32	8.0	Wheeler for 8 years and brusher for 3 years at Balmoral. Miner at New Lambton for 12 years and for 2 years at Stockington No. 2.

#### Coal Mine Investigations.

During 1948 investigations were carried out in six (6) Northern, six (6) Southern, and two (2) Western collieries. Most of these were made at the request of the Department of Mines and concerned alleged dusty working places underground. In addition, two series of special tests were taken and these are discussed below.

In Coalcliff Colliery, on the Southern Field, correlations were made between the circular konimeter, the Owens' dust counter and the Bausch and Lamb dust counter in conditions in which the dust counts by the three instruments ranged from 80 to 340 particles per cubic centimetre, 70 to 500 particles per cubic centimetre, and 40 to 560 particles per cubic centimetre, respectively. The correlation coefficients between the circular konimeter and Owens' dust counter, between the circular konimeter and Bausch and Lamb dust counter, and between the Owens' dust counter and the Bausch and Lamb dust counter were respectively 0.78, 0.84 and 0.90. Additional tests in another Southern colliery (Metropolitan Colliery), using the circular konimeter and the Owens' dust counter only, gave a correlation coefficient of 0.65 for the two instruments. The counts in this pit ranged from 70 to 1,760 particles per cubic centimetre by Owens' dust counter and from 60 to 480 particles per cubic centimetre by circular konimeter. The results showed that "saturation" of the konimeter spot by the piling of particles on one another commenced at about 400 particles per cubic centimetre, and caused the ratio of the konimeter counts to the corresponding Owens' counts to fall progressively as the dust concentration increased.

Whilst at low dust concentrations by Owens' dust counter at ratio was about unity, it fell little more than 0.2 at 1,760 particles per cubic centimetre (Owens'). This departure from unity in the ratio would account for the lower correlation coefficient for the two instruments in Metropolitan Colliery, and still higher dust concentrations would be expected to result in a still lower correlation coefficient.

Because of this piling of particles the circular konimeter was considered unsatisfactory for use in coal dust concentrations above 400 particles per cubic centimetre. Its use in N.S.W. collieries (where there is a proclaimed standard of 700 particles per cubic centimetre by Owens' dust counter) was not advised, despite certain advantages it possesses, such as a simple operating routine and relatively infrequent changing of the sampling plate.

An investigation was made in Bonalbo Colliery, in northern New South Wales, to determine whether pneumatic picks, which are used in winning coal, created excessive concentrations of coal dust. From the tests carried out, it was concluded that no dust hazard resulted from the use of these picks in this mine. The inquiry was of special interest because Bonalbo Colliery is the only mine in this State using these machines.

The average dust concentration when these picks were working was about 250 particles per cubic centimetre by Owens' dust counter. Hand-picking gave a similar average dust concentration. Other hand-mining operations were lower. Shovelling coal into skips generated an average dust concentration of 140 particles per cubic centimetre. Boring, using hand drills, gave a negligible amount of dust.

### Radiographs of Lungs of Workers in Dusty Trades.

Radiographs were made of the chests of 123 individuals, mostly workers in dusty trades, who attended the Division for examination. Seventy-four (74) individuals showed no abnormality, thirty-one (31) showed increased linear markings, ten (10) showed nodulation, and eight (8) tuberculosis or suspected tuberculosis.

Table II hereunder summarises the occupation, and the X-ray finding in the lungs, of 123 individuals who were examined. In the table, the column headed "Nodulation" includes those cases in which the pathological change in the lungs was believed to be due to (i) dust disease alone, and (ii) dust disease accompanied by tuberculosis. The column headed "Tuberculosis or Suspected Tuberculosis" includes those cases in which tuberculosis was present or suspected, but was unaccompanied by dust disease.

TABLE II.

Occupation.	Normal.	Increase in Linear markings.	Nodulation.	Tuberculosis or Suspected Tuberculosis
Foundry moulders .....	5	4	2	1
Foundry dressers .....	...	...	1	...
Foundry labourers .....	5	...	...	...
Boiler cleaners .....	2	1	...	...
Boilermakers and Welders	3	...	...	1
Shotblasters and sand- blasters .....	10	5	...	...
Sandstone workers .....	3	2	2	1
Metal polishers and grinders .....	1	1	...	...
Coal and shale miners .....	5	1	...	...
Metalliferous miners .....	2	2	...	...
Pipe and brickyard workers	2	...	...	...
Furnace bricklayers .....	15	5	...	2
Basalt millers .....	...	...	1	...
Lead battery workers .....	1	...	...	...
Coal-mine blacksmiths .....	...	...	1	...
Enamel sprayers .....	1	...	1	...
Asbestos mill hands .....	1	...	1	...
Woodworkers .....	...	2	...	...
Fluorescent tube workers	6	...	...	1
Divers .....	5	...	...	...
Abrasive powder makers .....	...	...	1	...
Miscellaneous .....	7	8	...	2
Totals .....	74	31	10	8

Five of the cases showing nodulation were of special interest and a few notes concerning them are shown hereunder:—

1. *Basalt Miller*.—This man was 53 years of age and had worked for nearly thirty-five years at a blue metal quarry. Most of the time he had been employed on screens and crushers at the quarry. His X-ray film showed a fine type of nodulation of unusual density, which was present throughout the whole of both lungs. This case is of interest because blue metal, (orthoclase basalt) contains no free silica. Two similar cases have previously come under the notice of the Division.

2. *Coal-mine Blacksmith*.—This man was 59 years of age and had been employed as a blacksmith in coal mines, mostly underground, for about twenty-five years. He had also been a miner at the coal face for about six years. His X-ray film showed an early degree of nodulation throughout both lung fields.

3. *Enamel Sprayer*.—This patient was 30 years of age and, although classified as an enamel sprayer, had not been engaged in that occupation since 1942, since when he had been a storeman for four years and a charge hand in a tinning shop for two years. He had only spent four years as an enamel sprayer and the X-ray film of his chest showed a generalised fine type of nodulation. Other lung conditions have to be considered in the differential diagnosis, but other individuals who have worked as enamel sprayers have been found to show radiographically a pulmonary condition resembling dust disease.

4. *Asbestos Mill Hand*.—This patient was 55 years of age and had been an asbestos miller for seven years before examination. Prior to that he had been doing pick and shovel work. Apart from his recent occupation, which was known to be very dusty, his industrial history is incomplete. A radiograph of the chest showed extensive changes, comprising nodular shadows and consolidations, and on physical examination of the chest inspiratory rhonchi were heard at all areas. The patient,

however, did not return, when requested, for further investigations (sputum tests and progress radiographs), and in view of this and of the incomplete industrial history, the diagnosis cannot be regarded conclusively as asbestosis.

5. One of the sandstone workers aged 60 years had been employed as a house drainer for thirty years and had worked sinking shafts in sandstone and as a coal miner for fourteen years. The X-ray film showed advanced nodulation with large areas of consolidation.

### Investigations in Dusty Trades.

*Dust Tests in Water Board Tunnels*.—At the request of the Silicosis Committee, dust tests were carried out in construction tunnels and shafts in the Ashfield district and at the dam site at Warragamba. Readings were taken on eight days and for as many operations as could be arranged at each working place. For each test six air samples were taken with an Owens' dust counter at five-minute intervals, except in some places at Warragamba, where the time interval was reduced to four minutes, in order to increase the number of places tested in the time available.

Boring was carried out by means of axial water feed pneumatic drills, and the bogging operation by Sullivan machine loaders. The latter type of machine was fitted with water jets which sprayed the rock continuously during loading. In cases where the mechanical loader was unavailable filling of trucks was done by hand boodling.

All workings were mechanically exhausted, and where the main inlet was considered to be too far back from the face or dust source, an ejector type of ventilator that could be taken down during firing was provided, in addition to the main system.

At Ashfield nine of the tunnels were being driven through sandstone and four through shale. In all eight working places tested at Warragamba the rock was sandstone.

The dustiest operation was boring, the average dust concentration for all the places tested being 67 particles per cubic centimetre, as compared with 62 particles per cubic centimetre during cleaning out drains with, pneumatic picks, 47 particles per cubic centimetre for bogging, 18 particles per cubic centimetre for after firing, and 15 particles per cubic centimetre for boodling. The highest single count (300 particles per cubic centimetre) was obtained during boring in a section in which the average dust concentration for the period of test was 179 particles per cubic centimetre.

The control methods observed appeared to be adequate for maintaining the dust concentrations in the air of the working places at less than 200 particles per cubic centimetre, which is the approved standard of dust concentration for work in sandstone.

*Asbestos Mining*.—During a visit to an asbestos mine in northern New South Wales, dust samples were taken near the crusher and in the bagging section of the associated plant. The American midget impinger was used for these tests.

In the crushing section, the dust concentration was 16.0 million particles per cubic foot, whilst in the bagging section it was 11.0 million particles per cubic foot. The dust would consist of a mixture of asbestos and country rock, mainly serpentine. From the appearance of the dust under the microscope, particularly from the large percentage of fibrous particles visible, it was considered that the accepted standard of five million asbestos particles per cubic foot, had been exceeded, and appropriate recommendations for reducing the dustiness were made. Radiographs which were taken of the chest of two workmen employed in the crushing and bagging sections, showed no evidence of asbestosis.

*Ore Milling*.—During the grinding of yellow ochre in an ore milling establishment there were visible leakages of dust from several points, especially near the delivery end of the grinder. The average dust count at the feed end of the Van Gelder grinder was 190 particles per cubic centimetre (Owens'), and on the delivery end, 910 particles per cubic centimetre. The high average count in the latter position was probably due to leakage from the collecting bags which were not housed. It was recommended that visible dust leaks should be effectively sealed and the dust collecting bags enclosed by a mechanically exhausted chamber.

*Asbestos as Heat Insulation in Steel Moulding*.—To reduce the loss of heat from molten metal held in a crucible, one firm covered it with a layer of coarse asbestos, the finer particles of which spread throughout the building when it was shovelled on to the metal. The exposure to asbestos was intermittent and of short duration, about five minutes at each pouring, and, as at the time, asbestos was only being used two or three times a week, the dust hazard was considered to be small. However, in view of the dangers associated with asbestos dust, it was advised that a substitute such as magnesia (magnesium oxide) should be used.

**Crusher Plant.**—Following a request from the Department of Labour and Industry and Social Welfare, an inspection was made of a plant engaged in crushing stones obtained from the banks and bed of the Nepean River. A sample of the dust that had settled out on one of the platforms near the screens was shaken in water and separated into two portions by sedimentation; the fine portion (particles mostly under 10 microns) was by weight, a very small portion of the whole sample. The fine dust contained 36.8 per cent. and the coarser portion 63.2 per cent. of free silica.

The highest dust count was 45 particles per cubic centimetre (Owens'), and, under the conditions of test, there was no serious dust exposure.

**Pipe Fabrication.**—In the job of bending steel pipes, only two processes, unpacking the pipes by discharging gravel into hoppers, and screening the gravel, were found to give rise to dangerous concentration of dust. Both processes were sufficiently intermittent to minimise any serious dust hazard, but it is not certain that, with dust containing a high percentage of free silica (over 60 per cent.), exposure to concentrations of about 4,000 particles per cubic centimetre of air (Owens'), even for short periods each day, would not cause changes in the lungs after many years. An alteration in the method of screening was considered desirable.

Packing the pipes with river gravel prior to bending, and bending the pipes created no dust hazard.

**Other Investigations into Dusty Occupations.**—In addition to the above, reports were made on a number of other places visited. These included the following types of work, in which no serious hazard was indicated:— General dust conditions in asphalt hot mix plant; sandblasting a bridge to remove old paint; a railway power house; grinding hollow-ware enamels with a portable grinder; a megass plant in a sugar mill; spraying metal coating on castings; unloading coir matting from a ship.

#### Lead Poisoning.

One hundred and eighty-four (184) persons suspected of having lead poisoning were examined and were classified according to the standards adopted by the Division into either one or other of two groups.

(1) Lead poisoned with disability, which is a compensable condition with disabling symptoms, anaemia and increased stippling of the red blood cells.

(2) Not lead poisoned or lead poisoned without disability.

Of the twenty-four (24) individuals who were considered to be suffering from lead poisoning with disability, thirteen (13) worked in factories manufacturing electric accumulators.

Table III which follows shows the occupation of the 184 individuals investigated and the diagnosis in each case.

TABLE III.

Industry.	Occupation.	Number Examined.	Lead Poisoned with Disability.	Not Lead Poisoned or Lead Poisoned without Disability.
Manufacture of accumulator batteries.	Moulder .....	4	1	3
	Lead oxide maker .....	3	...	3
	Mixer .....	2	...	2
	Paster .....	8	4	4
	Handler of dry plates .....	7	2	5
	Assembler .....	4	2	2
	Burner .....	8	1	7
	Repairer .....	5	...	5
	Maintenance worker .....	4	...	4
	Other processes .....	10	3	7
Painting Industry ...	House painter .....	26	...	26
	Coach painter .....	2	1	1
	Ship painter .....	5	...	5
	Spray painter .....	14	...	14
	Paint maker .....	4	...	4
	Commercial painter .....	2	...	2
Smelting of metals ...	Loco works and signal painter .....	4	...	4
	Lead smelter and moulder .....	6	2	4
	Lead alloy moulder and furnace man .....	15	...	15
	Brass moulder .....	1	...	1
Printing industry .....	Brass furnace man .....	2	...	2
	Glazier .....	1	...	1
	Hand composer .....	6	...	6
	Machine composer .....	3	...	3
	Other processes .....	1	...	1
Plumbing and other lead processes.	Plumber and solderer .....	5	...	5
	Lead buffer .....	2	1	1
	Lead packer and store-man .....	1	1	...
	Cable maker .....	1	...	1
Engineering industry	Boilermaker, oxy-acetylene and electric welder and cutter .....	15	6	9
	Fitter .....	3	...	3
	Riveter .....	1	...	1
	Labourer .....	1	...	1
Miscellaneous .....	Adventitious exposure .....	8	...	8
	Totals .....	184	24	160

In addition to the medical examinations carried out in the laboratory, 4,724 blood slides submitted at regular intervals by the medical officers of thirteen (13) factories, were examined for stippled red cells, and the results sent to the medical officer concerned. Eight (8) of these factories were engaged in the manufacture or repair of electric accumulators; two (2) were smelting metals containing lead; in another the lead exposure came from the manufacture and application of vitreous enamels; the employees in the other two plants were exposed to lead in the manufacture of glass and printing inks.

During inspections of Railway workshops and undertakings, blood examinations for lead poisoning were carried out on one hundred and thirty-two (132) workmen, including bridge dismantlers (oxy-acetylene burners), battery repairers, turners and fitters, plumbers and whitemetal workers.

In dismantling a painted steel railway bridge by burning out the rivets, the six oxy-acetylene burners showed blood changes consistent with lead absorption, and in some cases a high urinary excretion of lead. The lead in urine was determined from "spot" samples taken on the job and not from twenty-four-hour specimens. Although only one of the burners (G.H.B.) was absent from work during the period in which the tests were made, it is considered that the other five (5) had some disability due to lead. The bridge was in such an exposed position that the natural ventilation was always good, and in addition, suitable respirators were provided after the first month or so. The tests have shown that the use of oxy-acetylene torches on lead painted steel surfaces introduces a serious lead risk even when the work is carried out in the open air. Although respirators minimise the exposure, they can only be effective if worn whenever there is an exposure to fumes. It would be good practice to roster the burners periodically, so that after working on lead-painted surfaces for a few weeks, they could have a spell on non-lead work.

The results of blood and urine tests carried out on the six oxy-acetylene burners are shown in Table IV.

TABLE IV.

Date.	Identification Initials of Burner.	Haemoglobin (per cent.).	Haemoglobin grammes of Oxyhaemoglobin in 100 ccs. of blood.	Stippled Red Cells per Million Red Cells.	Lead in Urine Millgrammes per Litre.
2-2-48	J.S.	72	11.0	750	...
26-5-48	"	90	13.9	500	...
30-6-48	"	70	10.8	9,500	
28-7-48	"	85	13.2	4,000	0.04
27-8-48	"	75	11.5	4,750	0.43
26-5-48	H.W.	78	12.1	6,000	...
30-6-48	"	67	10.3	12,500	...
28-7-48	"	81	12.4	7,000	0.02
27-8-48	"	76	11.7	7,500	0.34
26-11-47	M.L.W.	72	11.0	11,000	...
2-2-48	"	73	11.2	3,000	...
26-5-48	"	82	12.6	5,500	...
30-6-48	"	74	11.3	8,800	...
28-7-48	"	81	12.4	3,500	0.03
27-8-48	"	84	13.0	8,000	...
2-2-48	H.L.	73	11.2	500	...
26-5-48	"	70	10.8	10,000	...
30-6-48	"	67	10.3	11,500	...
28-7-48	"	75	11.5	4,000	0.09
27-8-48	"	68	10.5	2,000	0.50
26-5-48	G.H.B.	73	11.2	10,500	...
30-6-48	"	59	9.1	16,000	...
28-7-48	R.W.M.	73	11.2	9,000	0.30
27-8-48	"	84	13.0	750	0.35

A man engaged in filling seats in the bodywork of new cars with a molten lead alloy and then smoothing the filling with a power grinder was severely lead poisoned. Four other fellow workmen doing similar work showed blood changes indicating a lead intake. In earlier years lead poisoning has occurred in other factories doing this type of work which is usually referred to as buffing. The hazard was overcome by changing over to hand files for smoothing and supplying respirators capable of giving protection against lead fumes for use when melting the solder.

Following a request from the Australian Workers' Union an investigation was made during May into working conditions at a factory engaged in making lead oxide. In addition to the foreman, who had worked at the factory for six years, the firm employed four men, two on the day shift and one on each of the other two shifts. Four of the employees had been examined for evidence of lead poisoning during recent weeks. One who had worked at the factory for four months was suffering from lead poisoning and was unfit for work; a second man who had worked in the oxide plant for six weeks was stated to have been treated in hospital for lead poisoning, but as he was not examined in this Division until six weeks after leaving work an opinion as to disability due to lead at the time of ceasing work could not be given. The foreman

showed evidence of a lead intake but was not considered to have any disability due to lead; the blood of the fourth man showed no evidence of lead poisoning.

The concentration of lead dust in the general atmosphere and near the drum filling section was variable; on one day it was found to be below the maximum allowable concentration of 0.15 milligramme per cubic metre; on the second day of test the amount of lead in the air in similar positions was above the maximum allowable concentration. However, when doing intermittent jobs such as loading drums of oxide into trucks, there appeared to be sufficient exposure to warrant the wearing of a respirator which was supplied but not always worn.

From the results of clinical examinations, air tests, and anemometer readings taken at the inlet hoods of the mechanical ventilation system, it was concluded that the lead hazard in this factory was due to intermittent exposure to high concentrations rather than to a permanent excessive concentration of lead dust or fumes. To minimise the risk of lead poisoning the following precautions were recommended:—

- (1) Provide well-fitting lids for all drums.
- (2) Wash down immediately all lead dust spilled on the floor.
- (3) On intermittent processes where the exhaust system is inapplicable, wear respirator continuously.

#### Dermatitis.

Of 133 individuals who were examined to determine whether the rash from which they were suffering was associated with their occupation, seventy-five were considered to have a dermatitis either not due to, or not proved due to occupation. Of these seven had tinia and one seabies.

Table V shows the occupation in which the fifty-eight cases of occupational dermatitis occurred, together with the suspected causative agent:—

TABLE V.

Suspected Causative Agent.	Occupation.	Number of Cases.
Oil	Electrical mechanic...	1
	Fitter .....	1
	Latheworker .....	1
	Storeman .....	1
Solvents	Bedding manufacturer	1
	Boiler repairer .....	1
	French polisher .....	1
	Gearman on wharf ..	1
	Machinery cleaner ..	1
	Painter and docker ..	1
	Ship's officer .....	1
	Silk screen worker ..	1
Dyestuffs	Dyer .....	1
	Paper ruler .....	1
	Storeman .....	1
Chromium	Tanner .....	1
Cement	Painter and docker ..	1
Soaps	Plasterer .....	1
Heat and humidity	Cleaner .....	1
	Hairdresser .....	1
	Baker .....	1
	Waterside worker ..	1
	Welder .....	1
Alkalies	Boiler cleaner .....	1
Mites	Margarine maker ..	1
	Textile machinist (Adventitious exposure).	1
	Waterside workers (loading oats) .....	4
	Waterside workers (unloading copra).	7
Cats (Tinea circinata)	Waterside workers ..	4
Horse hair	Upholsterer .....	1
Chalk	Rubber mill operator	1
Lamp Black	Waterside worker ..	1
Phenol	Hospital wardsman...	1
Rubber	Meat worker .....	1
Hides	Tyre moulder .....	1
Phenothiazine	Leather worker .....	1
Plaster	Maintenance fitter ..	1
Infection following injury	House painter .....	1
	Biscuit maker .....	1
	Cement mixer .....	1
	Coach worker .....	1
	Glass labourer .....	1
	Kitchenhand .....	1
	Nurse .....	1
	Packer .....	1
	Welder .....	1
	Total .....	58

#### Beryllium.

Inspections were made of two factories, one at Newcastle and the other in Sydney, engaged in the manufacture of fluorescent tubes used for the lighting of offices, factories and, to a lesser extent, of private homes. During the past few years reports have been published in America stating that workers in factories manufacturing these tubes have been affected by a disease of the lungs, which has apparently been caused by the inhalation of dust containing beryllium. In view of the findings, every effort should be made to prevent the inhalation of beryllium, even in small amounts.

From the inspections made it appeared that the danger would occur in the coating section in which batches of the coating powders, which included zinc-beryllium silicate, were weighed out, ground, sieved and then re-ground in small mixing mills and in this way bringing the powders into liquid suspension in solutions such as nitrocellulose in butyl acetate and ethyl alcohol.

Due to lack of local exhaust ventilation at points where the dry powder was handled, the ventilation was considered to be unsatisfactory. This aspect was discussed with the management of the two factories. A regular medical examination, including an X-ray of the chest, of all employees likely to be exposed to beryllium was recommended, and in the case of the Sydney factory, arrangements were made by this Division to have seven of the beryllium workers X-rayed. None of these men showed any evidence that they had been affected by exposure to beryllium. It is the intention of the Division to keep this industry under observation.

#### Fumes and Gases.

*Benzene and Toluene.*—An inspection was made of a factory using a toluene-rubber solution in the rubber lining of pipes and other rubber coating operations. The concentration of toluene in the atmosphere near the men engaged on the various processes ranged from 100 parts per million to more than 1,800 parts per million. It was stated by the management that for several years the solvent used had been a mixture of benzene and benzine. In view of their former exposure to benzene and their present exposure to toluene, the men were examined at the laboratory of this Division. The exposure of the men to the fumes varied from one month to eleven years and the most common symptoms experienced were dizziness and tiredness. Of the nine men examined, two had some degree of anaemia. Control measures to reduce the concentration of toluene to less than 100 parts per million were detailed and periodic medical examination of the men employed on the processes recommended.

Further air analyses were carried out in a factory engaged in the manufacture of printing inks containing toluene as solvent to determine the efficiency of the altered method of working practised since the investigation last year. The processes were now carried out automatically and with exhaust ventilation. The results of the analyses indicated that the concentrations of toluene fumes were less than 50 parts per million in all places where it was necessary for the operator to work. These concentrations were considerably lower than those found on the previous visit and indicate the effectiveness of an exhaust plant.

At another factory, a rubber solution was being manufactured using benzene as solvent. A dough was first prepared in a horizontal mixer with a proportion of the solvent, and the dough was then added to more of the solvent in a vertical mixer. Although an exhaust system was installed the volume of air exhausted over the horizontal mixer was little more than one-tenth the volume required to maintain an air velocity of 100 linear feet per minute across the face of the hood. High concentrations of benzene in the breathing zone of the two operators were found during loading of the dough into the vertical mixer and during cleaning of the horizontal mixer. The low concentrations found during the other operations were considered to be mainly due to the high air movements in this section of the factory due to the windy conditions existing on the day of test, rather than to the method of operation and the facilities available. It was considered that alterations in working procedure and improvements in the exhaust ventilation system should be instituted if it were not possible to replace benzene by a non-toxic substitute.

Subsequently, at the request of the company, further tests were carried out to determine whether pillar fans installed in the mixing section would reduce the concentration of benzene in the breathing zone of the operators. One pillar fan installed near the mixer created an air velocity of 1,550 feet per minute across the top of the latter. The concentration of benzene in the breathing zone of the operator ranged from 900 to more than 1,800 parts per million. In addition the air containing this high concentration of benzene diffused throughout the factory. This method of ventilating by blowing air across the operation is unsatisfactory—a result not unexpected as fans merely cause local air movement and by re-circulating

the air do not increase the general ventilation. This re-circulation and the high air movement across the mixer probably accounted for the large increase in the concentration of benzene in the air compared with the previous test. Attention was drawn to the previous recommendation that unless a non-toxic substitute be used for benzene, an exhaust ventilation system be installed capable of reducing the concentration of benzene in the atmosphere to below 50 parts per million for all operations.

Paint stripper containing benzene and ethylene dichloride was prepared at another factory under primitive conditions. It was recommended that unless less harmful substitutes were used, a proper exhaust system of ventilation should be installed for mixing and that the method of filling the mixing drum and tins be altered so as to avoid undue exposure of the operatives to fumes.

*Carbon Monoxide.*—At the request of the Department of Civil Aviation tests were carried out for carbon monoxide in the cabin and cockpit during flight of the first civil transport aircraft to be produced in Australia. The total time of flight was one hour forty-five minutes. A continuous air sample was taken during the whole flight, including take-off and landing, and six spot samples were taken at particular times during the flight. In all cases the concentration of carbon monoxide was less than 30 parts per million.

*Chrome.*—At the request of the Industrial Commission a further survey was made of the working conditions of a factory manufacturing sodium dichromate. Since the previous inspections several changes had been made in the process of manufacture of sodium dichromate, and two new sections had been added for the manufacture of chromium trioxide (anhydrous chromic acid) and chromium sulphate. In the former case the extraction process had been greatly simplified. Principally, as on previous occasions, the important atmospheric contaminants through the factory were chromates and a series of samples was collected and analysed from the roasting, extraction, purification and finishing sections of sodium dichromate and in the preparation and crushing sections of chromic acid. As before, some dust samples were taken in the mill room by means of the Owens' dust counter. It was shown that in all the places tested for chromate, the concentration of chromate was above the generally accepted maximum allowable standard of 0.1 milligramme per cubic metre of air. Compared with the conditions found in 1945, there appeared to be a slight increase in the atmospheric contamination with the exception of the finishing and packing room where the increase was very marked. In the latter room the concentration of chromate was found to be as high as 1.29 milligrammes per cubic metre of air. Throughout the rest of the plant, the concentration of chromate in the atmosphere was from 0.13 milligramme per cubic metre of air to 0.36 milligramme per cubic metre of air. In the mill room the dust counts were similar to those found previously, ranging from 160 to 200 particles, per cubic centimetre. According to the company's medical records, the incidence of new cases of nasal septal perforation had considerably decreased since 1945 and the incidence of skin rashes and "chrome holes" was much less. One explanation for the improvement in the medical findings in view of the higher concentrations found in the air of the plant, was the diminution in the number of production accidents, which, in the past, had necessitated men entering tanks and other portions of the plant for cleaning and other repair work. In these circumstances brief exposure to high concentrations of chromates would be expected. Attention was drawn to the faults in the factory operations which needed correction in order to reduce the exposure to dust and fumes from chromium compounds to the approved limit. Attention was also drawn to the recommendations of the previous report stressing the necessity for a high standard of housekeeping and general cleanliness, the maintenance of all plant and equipment, including ventilation equipment, in an efficient condition, and the observance of appropriate precautions by the workers wherever and whenever possible.

*Acids.*—An inspection was made of the process involving the pickling and rust-proofing of sheet steel. The steel is first treated with sulphuric acid and, after washing, with phosphoric acid. The men were exposed from time to time to slight temporary irritation to the nose and throat from sulphuric acid, and a possibility existed for skin irritation from the phosphoric acid.

*Carbon Dioxide.*—An inspection was made of the hold of a ship after reports had been made of the presence of 6 per cent. carbon dioxide and that the men had difficulty in breathing when entering the hold. The hold contained general cargo with no obvious source of carbon dioxide, but it was a refrigerated vessel using carbon dioxide as refrigerant. However, it was stated that the refrigeration cylinders had not been connected during the voyage and that there were three bulkheads between the hold and the cylinders.

On the following day to that on which 6 per cent. carbon dioxide was reported, tests were carried out in the hold while the men were unloading the cargo. The concentration of carbon dioxide varied from 11.4 to 19.5 parts per 10,000 (0.195 per cent). No physiological symptoms were noticed. It was concluded that the concentration in the air of the hold was not excessive but that there was an undetermined source of carbon dioxide.

*Hydrogen Cyanide.*—In connection with the proposed amendments of the regulations governing the fumigation of buildings, vessels or other enclosed spaces, by dangerous substances, tests were carried out to determine the effectiveness against hydrogen cyanide of available canisters. From the results of these tests a specification for an approved mask for use in cyanide fumigation was formulated.

An inspection was made of the handling of sodium cyanide in the manufacture of galvanised wire. The precautions considered necessary for the handling of the sodium cyanide "eggs" and the preparation of the cyanide bath were outlined.

Following a request to the Minister for Health by a representative of men employed as fumigators of citrus trees on one of the larger irrigation areas, an inquiry was made into the dangers of cyanide poisoning in the Leeton area where several gangs of fumigators are employed. In addition to watching a gang at work on two evenings, the foremen of the gangs at present employed, and also foremen who had previously had charge of fumigation work, were interviewed. At the inspection cyanogen was being used as the fumigant, but calcid briquettes or liquid cyanide have also been used.

The usual gang of fumigators consists of a foreman, machine operator, two tent pullers and a kicker-in. Normally it uses up to thirty (30) tents and it is customary to work on a face of trees, that is, thirty trees in a row. Before spraying the material for liberating the hydrogen cyanide (HCN), each tree is covered with a tent made of closely woven calico or duck. The tents are floated over the trees by two pullers, each of whom manipulates a long pole attached to a side of the tent. The kicker-in follows after the pullers and his job is to bring the tent close up around the tree so that the sides hang vertically, and he also has to form a dog hole in the tent through which the machine operator places the tube which holds an atomiser in position for spraying the charge. When about three or four trees have been covered the foreman measures the tent diameter and calculates the weight of charge to be used. The machine man who measures out the charge, drops it into the container of the machine, and pulls down the cover. The tube of the machine is then placed through the dog hole of the tent and a handle turned several times until all the charge has been sprayed. While the machine operator is spraying the charge under the first tree the foreman is busy measuring the second, that is, he works a tree ahead of the machine operator and continues to do so until the thirty trees have been fumigated.

It takes about thirty minutes to treat a face of thirty trees and the trees are kept under the gas for forty-five minutes. In every forty-five to fifty minutes the members of the gang have a break of about twenty minutes, but during some of these breaks the machine man has an exposure to HCN when opening a drum of cyanogen and charging his gas bucket, which holds sufficient material to fumigate a number of trees, and is carried about from tree to tree. As it is not unusual for the fumigators to commence work at sunset and work through till just before sunrise, the shift might be as long as twelve hours, during which time several hundred trees would be fumigated.

From the inquiries made, there appeared to be little doubt that, at times, machine operators had collapsed from inhaling hydrogen cyanide, but this had always occurred when working on very tall trees on big trees, which require larger doses than smaller trees. Affected men were said to have recovered in a matter of minutes when removed from the fumigation area. Machine men had also occasionally accidentally blown cyanogen or dust from calcid briquettes into their faces and eyes when the safety device had not been closed over the machine cover. In some cases hospital treatment had been necessary following such accidents. The foreman, tent-pullers and kickers-in complained of symptoms that may have been due to inhaling small concentrations of HCN over a period of several hours.

The continuous wearing of a canister mask would remove any hazard due to the inhalation of hydrogen cyanide, but this is considered both impracticable and unnecessary, but it would be advisable to have this protection available for use by the machine man when opening drums, filling gas buckets, or when transferring liquid cyanide from cylinders to the machine.

The first aid equipment was below standard and the method followed for the treatment of affected persons not according to latest recommendations.

It was advised that the following equipment should be provided for each gang of fumigators:—

- (a) A canister-type of mask capable of giving effective protection against hydrogen cyanide, the canister to be marked as being suitable for use in hydrocyanic acid.
- (b) A first aid box containing, in addition to material for treatment of scratches, cuts, etc., amyl nitrite pearls and a printed card giving simple rules for treatment of persons poisoned by hydrogen cyanide.
- (c) Cap lamps for the foreman and machine operator, or for other members of the gang if they wish to use them.

#### Ventilation.

Following cessation of work by the female employees of the combing section of a woollen mill an investigation was made at the request of the Department of Labour and Industry and Social Welfare. In the early part of the year new spray-type humidifiers were installed to replace others that had more or less fallen into disuse. The employees did not object to the use of the humidifiers except during the winter season, when they claimed that the low air temperatures resulting from humidification were the cause of an increased amount of sickness. The management on the other hand, held that humidification was essential for the work in hand. Authorities on woollen textile manufacture stress the importance of main-

taining proper temperature and humidity conditions, and therefore it is accepted that on many days the addition of moisture to the air would be desirable.

Obviously the temperature of the air in the mill was lowered by humidification, because the heat required to evaporate the water emitted by the sprays was derived from the air. It was found by observation that, when the humidifiers were operating, the temperatures in many places in the combing section were uncomfortably low, under 60 degrees Fahrenheit at 10 a.m. and about 55 degrees Fahrenheit at starting time two and a half hours earlier. The air temperature increased appreciably soon after turning off the sprays.

As the result of the inquiry it was considered that the problem in winter could best be solved by heating the water supplied to the sprays, and that if this were done there was no objection to humidifying the air. By increasing the air temperature and thus providing better working conditions for the operatives, better conditions for working the wool would also be provided.

Reports were also made on the ventilation of a number of factories and offices, and in addition, reports were made to the Chief Secretary's Department concerning the ventilation of sixteen theatres and public halls, including the biograph boxes. At the request of the Chief Secretary's Department, comments were made on the plans and specifications for mechanical ventilation of four public halls.

## G. SCHOOL MEDICAL SERVICE.

### Report by the Director (Dr. A. E. MACHIN) for the Year 1948.

During 1948, resignations and new appointments resulted by the end of the year in a staff of 21 medical officers (including the Director, School Medical Service, the 3 psychiatrists of the Child Guidance Clinics and the Area School Medical Officer, Wagga), 4 psychologists, 13 school nurses, 4 social workers and 1 speech therapist. During the year, the oculist, 2 medical officers and 3 school nurses resigned.

The School Dental Service was incorporated as a part of the newly-created Division of Dental Services.

#### Routine School Medical Work.

Medical examination of school children was continued in both metropolitan and country districts.

During the year, in the metropolitan area, under a modified scheme, 42,551 were fully examined, and 23,195 were reviewed or partially examined.

The services provided by the school nurses facilitate and are complementary to the work of the medical officers in schools. Their duties comprise the preparation of schools for the medical officers' visits, the conduct of certain preliminary examinations and the selection of children for reference to medical officers. Follow-up work by the school nurses was also continued, including the visiting of homes of certain children notified subsequent to the medical inspection, giving general advice to parents, and making inquiry at schools regarding treatment obtained as a result of medical notification.

In country schools during 1948, 41,746 children received a full medical examination and 1,751 were "reviewed" or examined as special cases.

Included in the number of full examinations are 1,372 by the school oculist who, in addition, carried out forty refractions and prescribed the necessary glasses. Treatment for acute and chronic eyelid conditions was also prescribed.

The notified defects among children fully examined are listed below:—

	Percentage (notifiable standard).
Dental .....	24.03
Eye and eyelid conditions .....	5.25
Ear conditions .....	1.18
Nose and/or throat conditions .....	9.05
Chest conditions .....	.21
Heart conditions .....	.47
General health (anaemia and/or malnutrition) .....	.91
Hernia.....	.33
Skin conditions .....	1.4
Thyroid enlargement .....	.27
Postural and orthopaedic conditions .....	.49
Hair (pediculi and/or nits) .....	1.36
Other notified conditions .....	3.74

#### Miscellaneous Medical Services.

One medical officer was attached full-time to the Sydney Teachers' College, four others were engaged part-time at the Sydney, Armidale, Balmain and Wagga Teachers' Colleges, and one regularly visited the Glenfield Special School. The Education Department Nursery Schools were under regular supervision by school medical officers and school nurses.

#### Medical Examination and Supervision of Teachers and Students.

The medical examination of the following groups of teachers or applicants for entrance to the service was carried out during the year:—

- (1) Applicants for admission to the Teachers' Colleges.
- (2) Ex-servicemen wishing to enter the Teachers' Colleges.
- (3) Married women teachers desiring transfer to the permanent staff.
- (4) Teachers and Teachers' College students returned from active service.
- (5) Ex-teachers and others desirous of entering the teaching service direct.
- (6) Certain teachers on sick leave.
- (7) Teachers desirous of attending evening lectures at the University.
- (8) Teachers for overseas exchange teaching.

Examinations under the above headings totalled 2,813 for the year, exclusive of the numerous partial and review examinations of students carried out at the Teachers' Colleges and at Head Office.

#### Child Guidance Clinics—Medical and Psychological Examination of Children.

Nos. 1, 2 and 4 Child Guidance Clinics examined children referred by the Child Welfare Department (including the Children's Court), teachers, school medical officers, parents, other branches of the Department, the Soldiers' Children Education Board, the New South Wales Society for Crippled Children and other social agencies. Re-examinations are carried out as required. In certain cases, also, subsequent visits were paid to the clinics for remedial tuition and for treatment. No. 3 Child Guidance Clinic undertook the examination of boys admitted to the Metropolitan Boys' Shelter and to Yasmor Hostel for Boys, and of boys referred by the Children's Court. Two thousand five hundred and seventy-two new cases were examined and/or investigated by these Clinics during the year.

*Other Examinations.*—One hundred and forty-two children referred for medical report by the Child Welfare Department, the Registrar of Widows' Pensions, and various branches of the Education Department, were examined at head office during the year.

The speech therapist continued her work in the schools and at the Speech Therapy Centre, Blackfriars, 2,029 treatments being given during the year.

#### Infectious Diseases and Their Effect on School Attendance.

For reasons of ill-health, 324,199 children were absent from school during the year for an average period of 1.8 weeks. This figure includes returns from secondary schools.

Disease.	Cases.	Average Absence (weeks).
	No.	per cent.
German measles .....	1,193	2.3
Mumps .....	15,066	2.7
Influenza .....	111,793	1.3
Measles .....	30,685	3.1
Sore throats .....	15,433	1.5
Chicken pox .....	12,378	2.5
Whooping cough .....	3,404	5.1
Croup .....	3,005	1.4
Bronchitis and pneumonia .....	13,106	2.2
Ophthalmia or sandy blight .....	1,037	1.6
Acute rheumatism and chorea .....	882	5.0
Tuberculosis .....	31	7.1
Injury (accidental) .....	14,998	1.9
Ringworm .....	3,388	2.8
Scabies .....	1,699	3.2
Impetigo .....	2,796	2.4
Pediculosis .....	1,238	1.8
Illness .....	91,232	1.4
<i>Notifiable Diseases.</i>		
Scarlet fever or scarlatina .....	519	5.4
Typhoid or enteric fever .....	12	4.5
Diphtheria and diphtheritic croup .....	223	5.1
Infantile paralysis .....	37	7.1
Cerebro-spinal meningitis .....	43	5.9

Contacts are excluded only in the case of certain diseases and their absences included:—

Disease.	Cases.	Average Absence (weeks).
Scarlet fever.....	665	2.8
Measles .....	3,304	2.1
Diphtheria .....	432	2.7

**Bush Nursing Association.**

In accordance with the arrangement which has been in existence for a number of years, bush nurses have continued to act in the capacity of school nurses in schools in isolated localities. The work consists of giving courses of lectures in hygiene—a syllabus being provided by the School Medical Service—and supervising and inspecting children in regard to their personal hygiene and cleanliness, carious teeth, etc.

**New South Wales Society for Crippled Children.**

Assistance is rendered to this Society in various ways, including notification and investigation of physically handicapped children.

**Far West Children's Health Scheme and Stewart House Preventorium.**

Reference of suitable cases to these bodies was continued throughout the year.

**Goitre Survey.**

A statistical survey of the incidence of thyroid enlargement in school children throughout New South Wales was undertaken during 1948, for the purpose of revising the goitre map prepared by this Service years ago.

**H. DIVISION OF DENTAL SERVICES.****REPORT BY THE DIRECTOR (Dr. L. PUDNEY) FOR THE YEAR 1948.**

The Division of Dental Services was created in 1947, and placed under the control of a Director. It incorporated two main sections—school dental services and services to State hospitals and homes, and institutions, including State penitentiaries.

The complete establishment is—

Director of Dental Services .....	1
Area Dental Officer (Wagga Division) .....	1
Dental Officers .....	20
—	
Total .....	22
—	
Senior Dental Assistant .....	1
Dental Assistants .....	11
—	
Total .....	12
—	

**School Dental Services.**

At the commencement of the year there were fifteen dental officers and eight dental assistants, but the staff, owing to retirements and resignations, was reduced to eleven dental officers and eight dental assistants. The vacancies for dental officers were advertised from time to time, but applicants were not forthcoming.

The Travelling School Dental Clinics working in both city and country districts examined 22,373 children. Of these 7.95 per cent. were found to have naturally sound mouths, whilst an additional 18.08 per cent. were found to have sound

mouths as a result of treatment. 73.97 per cent. were in need of treatment.

The clinics treated 12,577 children. Thirty thousand six hundred and seventy-one temporary teeth and 2,120 permanent teeth were extracted. Fourteen thousand three hundred and eighty-two permanent fillings, and 18,864 other treatments were provided.

Dental treatment was also carried out at the Outpatients' Department of the Royal Alexandra Hospital for Children, the Far West Children's Annual Camp at Manly, and the Glenfield Special School.

**State Hospitals and Homes, and Institutions.**

Staff was not available to bring into operation plans submitted and approved to appoint full-time dental officers to replace part-time private practitioners at present employed in these institutions.

The dental service at Gladesville Mental Hospital was augmented by the appointment of an additional part-time dentist, and the service extended to two full days per week.

The dental clinic at Randwick Auxiliary Hospital was refitted, and new equipment installed. Equipment at other institutions was overhauled and reconditioned.

**State Penitentiaries.**

A complete survey on the requirements for an adequate dental service was made during the year. A report was submitted on the accommodation available, and the equipment required, as well as its estimated cost.

## SECTION II.

## MEDICAL OFFICERS OF HEALTH.

## METROPOLITAN HEALTH DISTRICT.

## REPORT OF THE METROPOLITAN MEDICAL OFFICER OF HEALTH FOR THE YEAR 1948 (J. GRAHAME DREW, M.A., M.B., B.Ch. (Camb.), M.R.C.S. (Eng.), L.R.C.P. (Lond.), D.P.H., D.T.M., D.T.H. (Syd.), F.R.San.I.

To the Director-General of Public Health.

Sir,

I have the honour to present my report on the state of health in the metropolitan area for the year 1948.

The metropolitan area now contains fifty-four municipalities and two shires.

Total population (31st December, 1948), 1,643,530.

Mean population (1948), 1,626,860.

Live births, 33,082—a decrease of 1,706, compared with year 1947.

Birthrate per 1,000 of mean population, 20.33.

Ratio of male to 100 females births, 106.

Ex-nuptial births, 1,395 (4.22 per cent. of total live births).

Stillbirths, 615.

Deathrate per 1,000 mean population, 10.83.

Infantile mortality:

Total deaths under 1 week, 553.

Total deaths under 1 month, 635.

Total deaths under 1 year, 902.

Infantile mortality rates per 1,000 live births:

Under 1 week, 16.72.

Under 1 month, 19.19.

Under 1 year, 27.27.

Maternal Mortality: Number of deaths, 45 (including 10 deaths from criminal abortion).

Rate per 1,000 live births, 1.36.

## Causes of Death in the Metropolis.

Diseases of the Heart (5,984 deaths), followed by cancer (2,248 deaths), still head the list of causes of death in the metropolitan area. During 1948 there was a rise in the numbers of deaths due to pneumonia (865, compared with 622 in 1947) and influenza (67, compared with 32 in 1947).

## Infectious Diseases (Also See Tables i, vii, viii, ix, pages 12, 22, 25, and 29).

Diphtheria continued to decline in incidence since the commencement of immunization in 1936, 187 cases having been reported, against 268 in 1947. Councils have now adopted the principle of holding clinics at regular intervals and co-operate with each other in an endeavour to pick up stragglers by staggering the dates for contiguous clinics.

Scarlet fever showed a mild decline to 805 (973).

*Anterior poliomyelitis.*—Fifty-seven cases were recorded, with one death. Although the number is not large, yet it is a pointer to the possibility of an epidemic breaking out in the next year or so. Emphasis is again placed on the necessity of the public realizing that the Hygiene of Good Manners is well worth while and that dividends in disease control will be received from restraint in indiscriminate sneezing, coughing and spitting at each other and in the kissing of young children. A revolution in the standard of hygiene in public eating and drinking places is also required.

*Enteric Fever.*—Seven cases and one death were reported, as against eight cases and no deaths last year.

In a population of 1,500,000 such a low incidence speaks well of the efforts of the municipal health inspectors in their overall direction of the sanitary services. It is hoped that 1949 will see a considerable extension of the sewerage reticulation in the metropolitan area.

*Tuberculosis.*—Deaths from all forms of tuberculosis totalled 566.

## Health Week.

Under the slogan "Knowledge Defeats Disease", a most successful Health Week was celebrated in the metropolitan area.

The City Council held an exhibition at the Town Hall. This Department produced a large and comprehensive exhibit in which the story of Tuberculosis, its onset to cure, conditions aiding its spread, rehabilitation were graphically shown in eight large display cubicles. A continuous cinema was included in this exhibit, and bacteriologists demonstrated the finding and staining of the tubercle bacillus.

Many councils outside the metropolitan area also celebrated Health Week in fitting fashion.

## HUNTER RIVER HEALTH DISTRICT.

## Report of the Medical Officer of Health, Hunter River Health District, for the Year ended 31st December, 1948.

## Staff.

Dr. J. R. Shannon—Medical Officer of Health.

One Senior Health Inspector.

One Supervisory Nurse.

One Temporary Office Assistant.

## Staff Changes.

Dr. C. W. England was appointed to the position of the Government Medical Officer, Newcastle, on 1st November, 1948.

Mr. J. W. Wing was appointed to the position of Senior Pure Food Inspector, Hunter River Health District, on 5th July, 1948.

## The District.

Comprises four (4) municipalities, four (4) shires, and the Harbour of Port Hunter.

## Vital Statistics, 1948.

*Population.*—The population of the district at 31st December, 1948, was estimated at 249,610, while the estimated mean population for 1948 was 246,900.

*Marriages.*—During 1948, 2,467 marriages were celebrated in the district, equal to a rate of 9.99 per 1,000 of mean population.

*Live Births.*—There were 5,280 live births to mothers resident in the district, equivalent to a rate of 21.39 per 1,000 of mean population. Of these, 2,697 were males and 2,583 females.

*Ex-nuptial Live Births.*—These numbered 176, equivalent to a rate of 0.71 per 1,000 of mean population. The ex-nuptial live births represented 3.33 per cent. of the total live births.

*Deaths.*—The deaths of residents numbered 2,522, equivalent to a rate of 10.21 per 1,000 of mean population. Of these, 1,416 were males and 1,106 females.

*Infantile Mortality.*—Deaths under 1 year of age numbered 173, equal to a rate of 32.77 per 1,000 live births.

Of the total number of deaths of infants under 1 year of age, 105 or 60.69 per cent. occurred within one week of birth, and 131 or 75.72 per cent. within the first month. The corresponding rates per 1,000 live births for the two age groups were 19.89 and 24.81 respectively.

*Stillbirths.*—There were 102 stillbirths to mothers resident in the district, equal to a rate of 0.41 per 1,000 of mean population and representing 1.90 per cent. of all births (live and still).

## Marriages, Live Births, Stillbirths and Deaths—Each Local Government Area, 1948.

Municipality or Shire.	Area, 31st December, 1948.	Estimated Population. 31st December, 1948.	Mean 1948.	Live Births.								Deaths.								Stillbirths.									
				Marr- riages.			Total.		Ex- nuptial.		All Ages.			Under 1 year.			Under 1 month.			Under 1 week.			Total.		Ex- nuptial.				
				M.	F.	Total.	M.	F.	T.	M.	F.	Total.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.					
Municipalities—	acres.																												
Cessnock .....	4,800	13,180	13,110	142	204	153	357	2	4	6	65	48	113	4	3	7	3	3	6	3	3	6	2	1	3	...	...	...	
Maitland .....	11,541	19,630	19,450	281	230	199	429	9	2	11	99	90	189	10	6	16	8	3	11	7	3	10	6	1	7	...	...	...	
Newcastle .....	24,238	128,990	128,260	1,526	1,371	1,322	2,693	46	39	85	725	616	1,341	53	32	85	41	25	66	30	16	46	19	23	42	1	1	2	
Singleton .....	715	3,980	3,970	67	43	48	91	2	...	2	35	25	60	...	1	1	...	1	1	1	...	1	3	...	3	...	...	...	
Shires—																													
Kearsley .....	506,330	26,180	26,090	180	181	256	437	8	12	20	147	100	247	9	10	19	7	8	15	6	5	11	8	11	19	...	...	...	
Lake Macquarie .....	185,392	45,210	43,710	236	510	460	970	21	20	41	272	185	457	18	16	34	14	11	25	13	11	24	19	6	25	...	2	2	
Lower Hunter ...	129,462	6,360	6,310	3	67	68	135	1	3	4	35	26	61	3	2	5	2	...	2	2	...	2	1	1	2	...	...	...	
Port Stephens ...	249,992	6,080	6,000	32	91	77	168	2	5	7	38	16	54	5	1	6	4	1	5	4	1	5	...	1	1	...	...	...	
Total .....	1,112,470	249,610	246,900	2,467	2,697	2,583	5,280	91	85	176	1,416	1,106	2,522	102	71	173	79	52	131	65	40	105	58	44	102	1	3	4	

## Causes of Death of Infants Under One Year of Age, 1948.

Cause of Death.	Number of Deaths.			Clinic.	Number Immunised.
	Males.	Females.	Persons.		
Infective and Parasitic Diseases—					
9 Whooping cough .....	...	1	1		
10 Diphtheria .....	2	...	2		
35 Measles .....	...	1	1		
36 Acute poliomyelitis and polioencephalitis— notifiable forms .....	1	...	1		
Rheumatism, Diseases of Nutrition, and of the Endocrine Glands, other General Diseases and Vitamin Deficiency Diseases—					
64 Diseases of the thymus (including status lymphaticus) .....	1	...	1		
Diseases of the Blood and Blood-forming Organs—					
72 Haemorrhagic conditions .....	1	...	1		
74A Leukaemia .....	1	...	1		
Diseases of the Nervous System and Sense Organs—					
80B Encephalitis (non-epidemic) (other forms) .....	...	2	2		
83A Cerebral haemorrhage .....	1	...	1		
83D Softening of the brain .....	1	...	1		
85 Epilepsy .....	1	...	1		
Diseases of the Respiratory System—					
104 Diseases of the nasal fossae and annexa .....	1	...	1		
106C Bronchitis (unspecified) .....	...	1	1		
107 Broncho-pneumonia, including capillary bronchitis .....	3	8	11		
108 Lobar pneumonia .....	3	...	3		
109 Pneumonia (unspecified) .....	1	2	3		
111 Congestion oedema, embolism haemorrhagic infarction and thrombosis of lungs .....	1	...	1		
Diseases of the Digestive System—					
119 Diarrhoea and enteritis .....	4	1	5		
122A Hernia .....	1	...	1		
122B Intestinal obstruction .....	2	1	3		
123 Other diseases of the intestines .....	...	1	1		
129 Peritonitis without stated cause .....	1	...	1		
Diseases of the Genito-Urinary System—					
130 Acute nephritis .....	1	...	1		
Congenital Malformations—					
157 Congenital malformations— (b) Spina bifida and meningocele .....	1	2	3		
(c) Congenital malformation of the heart .....	11	6	17		
(e) Congenital pyloric stenosis .....	1	...	1		
(i) Other congenital malformations .....	2	4	6		
Diseases Peculiar to the First Year of Life—					
159 Premature birth .....	31	24	55		
160 Injury at birth .....	19	11	30		
161 (a) Asphyxia during or after birth, atelectasis (b) Intoxication due to maternal toxæmia .....	4	2	6		
(f) Icterus neonatorum .....	1	...	1		
(g) Others .....	2	2	2		
Violent or Accidental Deaths—					
Accidents—					
170 Automobiles— (c) Other automobiles .....	...	1	1		
181 Burns (conflagration excepted) .....	...	1	1		
All Causes .....	102	71	173		

## Infectious Diseases. (Also see Tables ii, vii, viii, ix, pages 13, 22, 25, 29.)

Details of cases of notifiable diseases are given below:—

Diphtheria.—One hundred and eighteen cases (5 deaths) were notified in 1948 compared with 96 cases in 1947, and an average of 117 for the previous five years.

Immunisation against Diphtheria in 1948—Activities of Clinics.—The following clinics were opened during the year. The children immunised at clinics numbered 1,743, but it is possible the number immunised privately was greater than this.

Housing was the most important public health problem of the year. The expansion of the industry coupled with the lag in building of new homes and repair of existing houses led to much distress. Normal procedures in regard to dilapidated and overcrowded homes had to be modified. The Housing Commission was active both in the city and in the satellite towns. New housing areas were selected by the Commission in districts which hardly lend themselves to such close settlement. An outstanding example was that of Gateshead. During the war this land had been occupied by a military camp. During the period of military occupation the camp had been

## General Notes.

sewered—the sewage being treated by a septic tank system. When the Housing Commission commenced activities an approach was made to that body by a combined deputation from the Hunter District Water Board and the Department of Public Health urging that the settlement be sewered and that a treatment plant be included in the scheme. The plan was not acceptable to the Commission, which proceeded to erect the cottages without sewerage or drainage. The allotments were small and low lying and quite incapable of coping with household wastes. The result, when the houses became occupied was a collection of foul-smelling quagmires draining into the neighbouring creek and then to Jewell's Swamp. The problem remains, awaiting the advent of sewerage at some distant date. Similar problems are developing in other housing settlements.

*Glass Washing in Hotels.*—In 1947 several city hotels had installed automatic glass washing machines on the moving belt principle. Inquiries made during 1948 disclosed that all the machines were being discarded as unsatisfactory. It was found that the mechanical parts of the machines became clogged with calcium and aluminium stearates thrown out of the wash water. The deposit was discoloured by iron salts.

*Tresillian Home for Newcastle.*—The committee of "Tresillian Newcastle" met regularly throughout the year. A site for the building was selected at Charlestown on the Dudley-road. The Hospital Commission objected to the use of the land for a Tresillian Home because, it was claimed, the land was reserved for a future hospital. The Commission later agreed that portion of the land could be made available.

*Medical Examinations by the Joint Coal Board.*—During the year a medical officer was appointed by the Joint Coal Board to carry out medical examination of miners.

*Unhygienic Methods of Handling of Fish for Human Consumption.*—Messrs. Scott and Oheye, of the C.S.I.R.O. Division of Food Preservation, co-operated with this office in the investigation of methods of handling prawns caught for the local and Sydney markets. Their report, which disclosed unhygienic and dangerous practices in handling cooked prawns, was sent on, together with recommendation to the Chief Secretary's Department for investigation and action.

*Health Week* was held from 24th June, 1948, to 2nd July, 1948.

*Harbour Pollution.*—A conference was held at the City Hall on 13th July, 1948, between interested authorities to discuss the matter of pollution of the waters of the port and the relative jurisdictions of authorities in control. The opinion of the crown solicitor was asked regarding the powers of the respective bodies. The crown solicitor deferred any ruling pending the submission of a "test case".

*Mass X-ray Examinations in Singleton.*—Sponsored by the Singleton Rotary Club, a campaign was inaugurated to induce people to have their chests examined by x-ray for tuberculosis. One thousand people were examined, the x-rays being taken by the matron at the Dangar Cottage Hospital.

*Meat Delivery Vehicles.*—Ordinance No. 56A was proclaimed on the 25th July, 1947, and regulated the "Carriage and Delivery of Meat to and from Abattoirs, Wholesale and Retail Butchers, Shops, Factories, Cold Stores, Rail and Shipping in the City of Newcastle".

The above ordinance specified in Clause 2 (a) (1) that the vehicle used by a contractor supplying more than one shop, should be of the hanging load type.

All private contractors had been required to comply with the legislation.

During 1948 the general manager of the abattoir sought to have the ordinance amended, making the hanging load type of vehicle made optional but the amendment was not approved.

#### Council for Scientific and Industrial Research.

##### Division of Food Preservation.

###### \* Food Poisoning Due to Prawns.

**1. Introduction.**—In April, 1947, a request was received from the Director-General of Public Health in New South Wales for assistance in elucidating the cause of food-poisoning which had occurred in the Newcastle district and which was alleged to be due to the consumption of prawns. On 22nd April, the problem was discussed at a meeting attended by Dr. Wallace, of the Health Department; Dr. Shannon, the Medical Officer of Health, Newcastle; and Messrs. E. J. F. Wood and W. J. Scott, of the C.S.I.R.O. Divisions of Fisheries and Food

Preservation respectively. Dr. Shannon reported that many thousands of people in the Newcastle district had suffered an illness which they attributed to eating prawns. The symptoms were of a gastro-intestinal disorder and included vomiting, diarrhoea and shock. There were no deaths and recovery took place in from one to three days. Information on the incubation period was not available in detail, but periods of from ten to seventeen hours were quoted for some outbreaks. It was agreed at this meeting that while the cause of illness was unknown, the possibility of it being a type of bacterial food poisoning could not be excluded. Immediate investigational work was impracticable as the prawn fishing season had passed, and further work was postponed until the resumption of prawn fishing during the following summer.

**2. Preliminary Investigations.**—In November, 1947, the writer visited Newcastle for the purpose of obtaining further details of the outbreaks and to enquire into the usual methods of prawn fishing and handling in the Newcastle area. It was particularly desired to see if the available evidence was indicative of, or consistent with, either of the two common forms bacterial food poisoning; namely, those due to *Staphylococcal* enterotoxin and those due to *Salmonella* infections. From a perusal of the official files on the subject, kindly made available by Dr. Shannon, it appears that the consumption of prawns has most probably been the cause of illness suffered by many people, but it is emphasised that the documentary evidence available provides no proof that prawns were the causal food in any of the outbreaks cited. For most of the outbreaks, information regarding the history of the prawns and the incubation period was either meagre or entirely lacking, and, as previously stated, there was not adequate proof that prawns were actually involved. It is felt, therefore, that the evidence recorded up to this time is of little value in indicating the probable cause of the illness.

Dr. J. R. S. Douglas, pathologist in charge of the laboratories at Newcastle Hospital, reported that samples of prawns purchased in retail stores on 7th March, 1947, were examined for the presence of pathogenic bacteria. No intestinal pathogens were found and most bacteria present were "water types". Some staphylococci were found, but estimates of the numbers present were not made. Dr. Douglas also advised that in March, 1947, several patients with acute gastro-intestinal illness were treated as out-patients at the Newcastle hospital. As none of these persons were admitted to hospital no examinations of excreta were made; records of the names and addresses of affected persons were not available.

It was learned at this time that the Newcastle prawn supply is derived from three main sources, viz., the Myall Lakes, Murrinah Lake and Tuggerah Lakes. Small quantities only are taken in the Hunter River adjacent to Newcastle. The first of these is the most important, most of the prawns being taken in the Myall river which enters Port Stephens near Tea Gardens. Except when supplies are heavy, the bulk of Myall river prawns is marketed in Newcastle. Murrinah and Tuggerah Lakes are both south of Newcastle and the greater fraction of the production from these waters is apparently marketed in Sydney. For the above reasons it was decided to make further studies of Myall river prawns when supplies were available early in 1948.

**3. General Condition of Handling.**—Accounts of the conditions of handling were received from several persons in the Newcastle and surrounding districts and, except in matters of detail, the reports showed a considerable measure of agreement. The following general account is consistent with observations made at first-hand in the vicinity of Tambo, 16 miles north of Tea Gardens. A few minutes to some three or four hours after catching, the prawns are cooked by boiling batches of 40 to 70 pounds in galvanised iron tanks heated over open fires. The tanks contain the saline lake or river water and vary from approximately 3 ft. to 5 ft. 6 in. in diameter and from 9 in. to 15 in. in depth, tanks of smaller diameter generally being the deeper. The capacity of the tanks varies from about 45 to 100 gallons, most being within the range of 50 to 70 gallons. The prawns are not cooked for a definite time but remain in the hot water until, in the opinion of the fishermen, they are sufficiently cooked. Usually this is judged by examining a prawn against a lamp and observing the extent to which the abdominal muscle has contracted away from the outer shell. The rate of cooking varies somewhat with the capacity of the tank, the weight of the batch of prawns and size of the fire, and periods of immersion probably vary from three to ten minutes. All fishermen interviewed emphasised the desirability of rapid cooking, and they were unanimously of the opinion that over-cooking results in a tough product. Further details on temperatures obtained during the cooking are given in the following section.

Before cooking is completed all prawns are floating in the boiling bath and the cooked prawns are skimmed from the

\* A preliminary report on this subject appeared in the Annual Report of 1947.

tank into a wicker basket in which they are cooled by immersion in the lake or river. The cooling period is stated to be for a few minutes and was observed to vary from forty-five seconds to about five minutes. Occasionally prawns may be left immersed for period up to thirty minutes. It is customary to cool the prawns in the same basket as is used for collecting live prawns, a procedure which will increase the contamination during cooling. The partially cooled prawns are then spread in a thin layer on wire racks, galvanised iron sheets or on hessian where cooling in air continues for a further period of one to eight or nine hours. At this stage it is customary to sprinkle with about 2 to 4 per cent. of coarse salt, although salting may be deferred until the prawns are packed into boxes, or even, at times, omitted. The wooden boxes have a capacity of some 55 to 60 pounds of cooked prawns, and are returnable.

After packing, the boxes are despatched to the Newcastle market, from Tamboy, the journey by boat and road being of the order of five hours. Arrival at Newcastle is, therefore, usually between seven and fourteen hours after cooking. From the markets the prawns are distributed directly to retailers.

Up to this stage the product is handled entirely without refrigeration and the temperature of the product is close to ambient summer temperatures. It is clear also that prawns are retailed on the day of purchase from the markets without the use of refrigeration, although prawns would be cooled if it were necessary to hold them overnight. Occasionally when road transport is not available prawns are held over by the fisherman for an additional twenty-four hours before marketing, and, in such circumstances, they are always iced or refrigerated. One fisherman reported that he often placed a lump of ice of about 1 or 2 pounds weight in the centre of a box, but the cooling of most of the prawns would be ineffective with this method. When supplies are heavy the surplus at Newcastle may be frozen. Freezing is carried out at Dark's Cold Stores the prawns remaining in boxes of which a number may be stacked together. With initial temperatures between 70 and 80° F. and with the boxes in still air at 10 to 15° F. freezing is naturally a slow process, and twenty-four hours may elapse before temperatures at the centres of the boxes are as low as 32° F. If fifty or sixty boxes are stacked together without adequate dunnage it may take much longer. The frozen prawns may be forwarded to other markets or stored for subsequent sale in Newcastle.

Although in the Newcastle area prawns are generally marketed without refrigeration, those arriving at the Sydney markets are frequently on ice. In January, 1948, several consignments of cooked and uncooked prawns from the Manning River area were seen. All boxes contained a reasonable amount of ice on arrival, although it was not known whether icing was done immediately after cooking or some time later at the rail-head. Most prawns from the Tuggerah lakes are, however, marketed without refrigeration, although one fisherman at Toukley reported that his regular procedure was to pack with crushed ice immediately after cooking and cooling.

**4. Heat Penetrating Measurements.**—The rate of increase in temperature was measured under laboratory conditions using fine (30) gauge thermocouples fixed at various positions in the body of the prawn. The measurements were made with King prawns of various sizes immersed in boiling 3 per cent. brine.

Typical results are shown in the accompanying figure which shows that even the central portions of large prawns attain temperatures within a few degrees of the boiling point in less than three minutes. Such treatment should, and as will be shown later, actually does destroy all vegetative bacteria. Meat penetration under these laboratory conditions in which the liquid was continuously boiling, would be somewhat more rapid than under commercial conditions when the water temperature may be reduced by up to about 10° F. when the large bulk of prawns is added. Theoretically, however, the rate of heating should be only slightly less under field conditions and it is probably that centre temperatures exceeding 190° F. are generally attained in commercial cooking.

It was noted that, depending on their size, the prawns came to the surface and remained floating at various times after immersion. Small prawns of about 8 grams usually floated after 50-70 seconds boiling and large prawns of 17-19 gm. floated after 100 to 150 seconds. It was observed further that centre temperatures were generally greater than 175° F. to 180° F. at the time of floating, for all sizes of prawn examined. Such floating is apparently due to the buoyant effect of water vapour between the shell and the body of the prawn. This appears to be the case as if a floating cooked prawn is withdrawn from the water, cooled for a few minutes, and again returned to the boiling bath it does not float until it has been thoroughly heated again.

It seems reasonable therefore that when prawns are not removed from the boiling water before they have floated that centre temperatures of at least 180° F. will always be attained. In observations at Tamboy the prawns (approximately 8 to 12 gm. range) were starting to float after two minutes' immersion and all, or almost all, were floating in three minutes. As commercial cooking is usually continued for at least one minute after the bulk of the prawns come to the surface it is likely that centre temperatures of not less than 190° F. will be generally attained.

**5. Bacteriological Studies.**—(a) *Methods*:—The bacterial contents of the prawns were determined by plate counts on nutrient agar and on Chapman's agar. Nutrient agar contained 3 g. of beef extract and 5 g. of Bacto-peptons per litre. Chapman's medium (C. H. Chapman, J. Bact. 51, 409, 1946), which is specially recommended for the selective isolation of pathogenic *Staphylococci*, has the following ingredients per litre in addition to agar: Tryptons, 10 g.; Gelatin, 30 g.; Yeast Extract, 2.5 g.; Mannitol, 10 g.; Lactose, 2 g.; K<sub>2</sub>HPO<sub>4</sub>, 5 g.; and NaCl, 75 g. Nutrient agar plates were incubated at 37° C. for forty-eight hours and sometimes also at 25° C. or at room temperature (24-27° C.). Chapman's agar was incubated at 37° C. for forty-eight hours.

Samples of two to five prawns were added to ten times their weight of sterile saline and mixed for thirty seconds in a Waring blender. Where necessary appropriate dilutions were made in normal saline.

(b) *Prawns from Sydney fish market*.—Samples were collected in sterile containers on 13th and 22nd January. All samples except one were from the Manning River area and these included on School prawns (*Metapenaeus macleayi*). The remaining sample consisted of live prawns from Sydney Harbour and included some School prawns and a greater number of King prawns (*Penaeus plebejus*). The range of plate counts is shown in the following table:—

*Bacterial Contents of Prawns from Sydney Fish Markets.*

Sample.	Raw or Cooked.	Origin.	Plate Count per gram.		
			Nutrient Agar 25° C.	Nutrient Agar 37° C.	Chapman's Agar 37° C.
S1	Cooked	Jones Island ...	130,000	120,000	31,000
S2	Cooked	Taree .....	15,000	9,500	690
S3	Cooked	Cundletown ...	1,500,000	500,000	300,000
S4	Raw ...	Taree .....	1,700,000	1,200,000	12,000
S5	Raw ...	Sydney Harbour (King Prawns).	730,000	380,000	76,000
S6	Raw ...	Sydney Harbour (School Prawns).	490,000	120,000	3,300
S7	Cooked	Cundletown ...	970,000	730,000	3,300
S8	Cooked	Cundletown ...	210,000	330,000	4,100
S9	Cooked	Manning River	1,000,000	640,000	36,000
S10	Raw ...	Jones Island ...	150,000	94,000	6,000

As is common with organisms on unprocessed foods the plate count at 25° C. is somewhat higher than at 37° C. The types on nutrient agar consisted mainly of types found commonly on fresh fish and included species of *Micrococcus*, *Achromobacter* and *Flavobacterium*. Numbers growing on Chapman's medium were generally much less than on nutrient agar, and many of these were *Micrococcus* and *Staphylococci*, the latter being almost all non-pigmented.

(c) *Prawns from Newcastle area*.—(i) *Changes between catching, cook and arrival at Newcastle*:—Visits were made to Tamboy on the evenings of 31st January and 3rd February, and on each occasion samples were taken of (1) live prawns as caught, (2) cooked prawns, and (3) cooked prawns which had been cooled in the river water. The sterile containers in which samples were collected at Tamboy were immediately surrounded by crushed ice in an insulated box in which they were transported to the laboratory at Newcastle. These samples would cool rapidly to 32° F. and were maintained at that temperature for seven to twelve hours before examination in the laboratory. This period of holding on ice would not allow any significant increase in the bacterial population. Each of the lots sampled at Tamboy was again sampled on arrival at the markets. Some samples were held at room temperature to observe the rate of onset of spoilage.

The following table shows the changes in the bacterial flora of the prawns between catching and arrival at the markets:—

*Changes in Bacterial Contents of Prawns between Catching and Marketing.*

No.	Sample.	Plate Count per gram.		
		Nutrient Agar 24-28° C.	Nutrient Agar 37° C.	Chapman's Agar 37° C.
N3	Raw school prawns caught by C. Butcher, 31st January, 1948.	360,000	150,000	17,000
N4	Raw school prawns caught by C. Butcher, 31st January, 1948.	280,000	200,000	7,000
N6	Raw school prawns caught by C. Butcher, 31st January, 1948, after cooking for 4 min. 15 sec. at 01.45, 1st February, 1948.	20	10	10
N5	Raw school prawns caught by C. Butcher, 31st January, 1948, after cooling in river water for 5 minutes.	6,000	1,000	170
N7	Raw school prawns caught by C. Butcher, 31st January, 1948, on arrival at Newcastle 09.30 on 2nd February, 1948, after approx. 24 hours in cool room at Nelson's Bay.	820,000	80,000	82,000
N8	Raw school prawns caught by C. Butcher, 31st January, 1948, on arrival at Newcastle 09.30 on 2nd February, 1948, after approx. 24 hours in cool room at Nelson's Bay.	52,000	13,000	2,800
N13	Raw school prawns caught by E. Motum, 3rd February, 1948.	...	55,000	700
N15	Raw school prawns caught by E. Motum, 3rd February, 1948, after cooking for 3 minutes 45 seconds at 23.40, 3rd February, 1948.	...	10	15
N16	Raw school prawns caught by E. Motum, 3rd February, 1948, after cooling in river for 1 minute 30 seconds.	...	730	110
N14	Raw school prawns caught by E. Motum, 3rd February, 1948, cook 3 minutes 50 seconds, cooling 45 seconds.	...	1,800	500
N17	Raw school prawns caught by E. Motum, 3rd February, 1948, on arrival at Newcastle 09.30 on 4th February, 1948.	...	16,000	4,700

The results on both occasions were very similar. The bacterial contents of the raw prawns was of the order of 100,000 to 200,000 per gram growing on nutrient agar, and between 2 and 10 per cent. of this number grew on Chapman's medium. As far as could be shown by the techniques the cooking process virtually sterilised the prawns although it would be expected that some bacterial spores would survive. Cooling in water resulted in re-contamination to the order of 1,000 per gross on nutrient agar, and of these some 15 to 30 per cent. grew on Chapman's agar. The bacterial contents of the water were approximately 2,500 per ml. on nutrient agar of which less than 100 could have grown on Chapman's medium. Contamination of the cooled prawns from the wicker baskets is indicated as a 10 gram prawn would need to take up 4 ml. of water to acquire 1,000 organisms per gram from the water only. Also as has been pointed out the contamination of cooled prawns contains a larger percentage growing on Chapman's medium than does the river water. On arrival at Newcastle substantial increases in the contamination have occurred, the increases being slightly greater in the lot which was held for an additional twenty-four hours in the cool room at Nelsons Bay. The prawns caught on 3rd February were marketed in new boxes so the increase cannot be attributed to contamination from improperly cleaned boxes.

(ii) *Bacterial contents of prawns on arrival at Newcastle market.*—In addition to the three samples N7, N8, and N17 already mentioned, three samples of prawns from the Myall River area were taken on arrival at the Newcastle fish market. The prawns had all been caught some eight to thirteen hours previously. The relevant details are given in the following table:—

No.	Sample.	Plate Count per gram.		
		Nutrient Agar 37° C.	Chapman's Agar 37° C.	
N10	09.00 3rd February, 1948. Caught Hood & Sharp. Temperature 74° F.	240,000	39,000	
N11	09.00 3rd February, 1948. Caught E. Motum. Temperature 75° F.	44,000	22,000	
N21	10.00 5th February, 1948. Caught R. Motum. Temperature 75° F.	100,000	20,000	

The numbers of bacteria present were of the same order as for the three samples given previously, and are further indicative of a significant increase in numbers following cooking and cooling. It will be noted that temperatures were of the order of 75° F. These temperatures, which were typical of others taken during the week, are sufficiently high as to permit rapid

growth of bacteria and as will be shown later very rapid deterioration is occurring while the prawns are at these temperatures.

(iii) *Changes During Holding at Room Temperature.*—In order to obtain some information on the rate of increase of bacterial numbers under summer conditions portions of some samples were held at laboratory temperatures which averaged approximately 75 to 80° F. at the time. Results are shown in the following table:—

No.	Sample.	Plate Count per gram.	
		Nutrient Agar 37° C.	Chapman's Agar 37° C.
N12	Mixed prawns from N7 and N8 held for further 24 hours at 75-80° F.	6,000,000	500,000,000
N23	Sample N10 held for additional 24 hours at 75-80° F. then overnight in refrigerator.	200,000,000	560,000,000
N24	Sample N11 held as for N23 .....	66,000,000	860,000,000
N22	Sample N17 held for 7 hours at 75-80° F. then overnight in refrigerator.	5,000,000	960,000
N9	Sample N6 held for additional 30 hours on ice at approx. 32° F.	700	310

It is clear that storage at summer temperatures permits very rapid increases in the bacterial populations and mean generation times of the order of one and a half hours or less are indicated. By contrast sample N9, which had been held on ice for about thirty-eight hours after cooking, still had a bacterial content of less than 1,000 per gram. Material held at room temperature for twenty-four to thirty-two hours after cooking had a stale slightly ammoniacal odour, and there is little doubt that it would be regarded by most people as spoiled. In such prawns the growth of bacteria was particularly heavy on the outside of the shell and immediately beneath the shell and on the outer part of the edible portion. The deeper portions of the gut remained comparatively free of bacteria even when surface growth was very heavy. The greater numbers developing on Chapman's medium will be referred to later in the section on types of bacteria.

(iv) *Bacterial Contents of Prawns in Retail Shops.*—Three of these were obtained from the Australian Sea Foods store in Hunter-street, the prawns from this source coming from Tuggerah Lakes. All three samples of Tuggerah Lakes prawns were mixtures of approximately equal numbers of Greasy Back (*Metapenaeus ap.*) and School (*Metapenaeus macleayi*) prawns. The fourth sample (N19), which was obtained from Grevas Store in Scott-street, consisted of School prawns which were alleged to have been purchased on arrival at the markets from Myall River some six hours previously. Results are given in the following table:—

*Bacterial Contents of Prawns from Newcastle Shops.*

No.	Sample.	Plate Count per gram.		
		Nutrient Agar 24-28° C.	Nutrient Agar 37° C.	Chapman's Agar 37° C.
N1	30th January, 1948, in A.S.F. Store at 34° F. since 29th January, 1948.	6,000,000	3,000,000	63,000
N2	30th January, 1948, in A.S.F. Store at 34° F. since 30th January, 1949.	3,500,000	1,100,000	30,000
N20	4th February, 1948, from shop window A.S.F. Store. Temperature 72° F.	...	120,000	100,000
N19	4th February, 1949, from shop window Grevas Store. Temperature 54° F.	...	120,000	490,000

The bacterial contents of samples N1 and N2 were rather typical of material held on ice for a few days. It will be noted that for both samples the proportion of bacteria growing on Chapman's agar was small. Sample N19 is of some interest as it shows a higher plate count on Chapman's agar. While this phenomenon was observed with spoiled samples it was somewhat surprising in a sample reputed to be obtained freshly from the markets some six hours previously. The lower temperature of sample N19 was presumably due to iced fish in the window adjacent to the prawns as the prawns had not been iced.

6. *Types of Bacteria.*—Although the investigations were concerned primarily with quantitative aspects of the bacterial contents of the prawns at various stages of marketing, some general comments may be made on the types of organisms found.

The bacteria present on freshly caught prawns included a great variety of types common fresh fish and in water and soil. It is possible that small numbers of pathogenic species were also present. It was, however, considered unnecessary to make a special search for organisms such as *Salmonellae* in fresh

prawns as it was shown that the cooking process was sufficient to destroy all vegetative bacteria. Any organisms present in uncooked prawns are, therefore, likely to lack significance.

After cooking and cooling the organisms acquired are again of the miscellaneous types characteristic of water. Immediately after cooling only a small number of organisms grew on Chapman's medium and most of these were non-pigmented types of *Micrococcus* and *Staphylococcus*. On arrival at the markets the percentage of organisms growing on Chapman's medium was somewhat greater and again most of the types on this medium were non-pigmented strains of *Micrococcus* and *Staphylococcus*. Sample N11, however, contained a considerable number of pigmented organisms. *Staph. aureus* and a number of strains isolated were found to have typical fermentation reactions of this organism. All of the strains tested were, however, coagulase negative. On the spoiled prawns the numbers growing on Chapman's agar were greatly in excess of those growing on Nutrient Agar. On sample N12 the bulk of the colonies on the former comprised stout Gram negative rods with the remainder comprising mainly *Staphylococcus albus* and some sporing Bacilli. Samples N23 and N24 also included large numbers of very short Gram negative rods together with large numbers of *Staphylococcus albus* and a few pigmented *Micrococcus* and *Staphylococcus*. Again, none of the pigmented *Staphylococcus* was coagulase positive.

The gram negative rods occurring on the spoiled prawns were not identified except to show that they were salt tolerant organisms unable to grow on media containing less than 1 per cent. of salt.

It is clear that the prawns provide a medium which favours the growth of salt-tolerant organisms included in which are both *Micrococcus* and *Staphylococcus*. In these circumstances contamination with entero-toxin producing strains of *Staphylococcus* may lead readily to the production of entero-toxin in significant amounts.

**7. General Discussion.**—These studies have provided no proof of the cause of illness attributed to the consumption of prawns, and such proof is not likely to be available until further outbreaks have been investigated in some detail. It is however of some interest to consider the possibilities of bacterial food poisoning with the conditions of handling as outlined.

Firstly, it should be emphasised that prawns are frequently consumed as purchased, without any further cooking, and the risks are therefore relatively high should pathogenic organisms or their toxins be present. The two common types of bacterial food poisoning may be considered in turn.

If the prawns commonly carry *Salmonella* organisms capable of producing disease in man a widespread source of the infection must be postulated. As the cooking process could destroy all organisms of this type it is unlikely that the prawns themselves are carriers of the infective agent. Contamination of the river water is unlikely at Tamboy as the river has just emerged from a large lake around which there is very little human habitation. Contamination at this stage is also rendered somewhat unlikely as no cases of illness are known to have occurred after eating freshly cooked and cooled prawns. It is true, of course, that the prawns are subsequently exposed to various human contacts, but it is unlikely that such contacts would include many persons who were carriers of *Salmonella* organisms. Infection from such human contacts is, therefore, not likely to lead to widespread illness, but would more probably be associated with prawns exposed to a particular human carrier, e.g., from a particular shop. The possibility that prawns may, from time to time, carry *Salmonella* organisms can by no means be excluded at present, and in this connection it should be borne in mind that the ingestion of very small numbers of virulent organisms may produce disease, and that the detection of small numbers in foods is by no means an easy matter.

**8. Poisoning.**—Staphylococcal food poisoning is due to the formation in the food of the entero-toxin to which man is susceptible. Significant amounts of entero-toxin cannot be formed in the absence of very large populations of the *Staphylococci*, and such numbers can only develop after holding at favourable temperatures for a sufficient time. It is quite clear that, in the absence of refrigeration, prawns may develop very large bacterial populations with twenty-four hours at summer temperatures. It has also been shown that uncooled salted prawns favour the development of salt-tolerant bacteria including *Staphylococci*. It is known that entero-toxin producing *Staphylococci* are of widespread occurrence, that they are able to grow readily in salty-foods such as ham, and that they may produce significant amounts of entero-toxin in twelve hours at 98 degrees F. During the summer the average temperature of prawns may well be as high as 75 to 80 degrees F. and under present conditions very few of the prawns would be available for purchase from retail shops within twelve hours of cooking, while intervals of twenty to twenty-four hours would not be uncommon. The conditions of handling salted prawns in the Newcastle area during summer are, therefore, such as may be expected to lead to outbreaks of staphylococcal food poisoning. One outbreak described by the Motum family at Tamboy appears to have been of this type. The outbreak occurred early in 1947 at Bulahdelah and was attributed, by the medical practitioner, to the consumption of prawns. The prawns were consumed at an evening function and had been caught and cooked at Tamboy some twenty to twenty-four hours previously. The incubation period was from two to four hours approximately. This outbreak is very characteristic of Staphylococcal food poisoning, and is the only one where the origin and history of the prawns were known.

Apart from questions of food poisoning, it is evident that handling of prawns without refrigeration results in a very short storage life before the onset of spoilage, and there seems to be no reason why prawns should not be iced as soon as possible after cooking. Icing would also be most advantageous where freezing is contemplated as further deterioration during slow freezing would be considerably reduced. The elimination of cooling in contaminated water would also extend the storage life of the cooked prawns, but the substitution of air cooling alone could scarcely be recommended until it was known whether an attractive product could be obtained in this manner.

Briefly then it may be stated that the present studies provide no proof of the cause of the reported food poisoning, but they do show that the present conditions of handling are such that bacterial food poisoning could readily occur under summer conditions.

**9. Summary.**—1. The general conditions of the handling and marketing of prawns in the Newcastle area are described.

2. The bacteria present on freshly caught prawns are similar to those occurring on fresh fish.

3. The method at present used for cooking prawns is adequate to destroy all vegetative bacteria.

4. Recontamination of the cooked prawns occurs during cooling in water.

5. During storage without refrigeration, deterioration occurs rapidly at summer temperatures; and the storage life after cooking may be as short as 12 to 16 hours.

6. Bacterial spoilage is essentially superficial.

7. Cooked prawns stored without refrigeration provide a favourable growth medium for salt-tolerant organisms including *Staphylococci*.

8. The results obtained are discussed in relation to *Salmonella* and *Staphylococcal* food poisoning.

## SOUTH COAST HEALTH DISTRICT.

### Report of the Medical Officer of Health, South Coast Health District for the year ended 31st December, 1948.

Dr. A. J. GEOFFROY, M.B., Ch.M., D.P.H., D.T.M., D.T.H.

**Staff.**—Dr. E. S. A. Meyers, M.B., B.S., D.P.H., Medical Officer of Health (to 20th February, 1948). Mr. K. R. Horne, Senior Health Inspector; Miss O. Thompson Typist-stenographer (to 3rd December, 1948); Miss A. P. Graham, Typist-stenographer (from 20th December, 1948).

To the Director-General of Public Health,

Sir,

I have the honour to present a report on the health conditions of the South Coast Health District for the year 1948

### Local Authorities.

From the 1st July, 1948, the municipalities of Berry, Broughton's Vale, Nowra, South Shoalhaven and Ulladulla, and the shires of Cambewarra, Central Illawarra and Clyde were amalgamated into one local authority. This amalgamation of local authorities was designated the Shire of Shoalhaven, and reduced the number of local authorities in the South Coast Health District to twelve.

### Staff Changes.

Dr. E. S. A. Meyers, medical officer of health, resigned from the service, ceasing duty on the 20th February, 1948. The position of medical officer of health has been vacant since

the departure of Dr. Meyers. Dr. E. C. Wallace, assistant medical officer of health, of head office staff, visited the district at various times throughout the year.

Dr. A. J. Geoffroy, Medical Officer of Health, Mitchell Health District, was appointed to the South Coast Health District, but did not commence duty in that capacity during the current year, due to difficulties arising from the transfer of officers to various health districts, and also to the exigencies of the Health Department, Sydney.

#### Office Accommodation.

On the 16th June, 1948, an officer of the Department of Building Materials, commenced duty in Wollongong and occupied a room in the office of the medical officer of health. The general office, formerly occupied by the office assistant, was permanently allocated to the Department of Building Materials. The medical officer of health now occupies room, formerly allocated to the senior health inspector, and the former office of the medical officer of health, is jointly occupied by the senior health inspector and the office assistant.

#### Vital Statistics, 1948.

**Population.**—The population of the district at 31st December, 1948, was estimated at 120,220, while the estimated mean population for 1948 was 117,750.

#### Marriages, Live Births, Stillbirths and Deaths—Each Local Government Area, 1948.

Municipality or Shire.	Area	Estimated Population.			Marriages.	Live Births.						Deaths.												Stillbirths.						
		31st Dec., 1948.	31st Dec., 1948.	Mean 1948.		Total.			Ex-nuptial.			All Ages.			Under 1 Year.			Under 1 Month.			Under 1 Week.			Total.			Ex-Nuptial.			
						M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	
Municipalities—	acres.																													
Bowral .....	3,234	3,740	3,700	46	35	34	69	2	4	6	20	26	46	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...		
Camden .....	10,985	3,040	3,000	33	28	30	58	...	3	3	22	12	34	3	...	3	3	...	3	...	3	...	1	...	1	...	...			
Gerringong .....	20,110	910	900	4	9	6	15	...	...	...	4	6	10	1	1	2	1	1	2	1	1	2	...	...	...	...	...			
Jamberoo .....	40,468	950	940	12	7	8	15	1	1	1	4	4	8	...	...	...	...	...	...	...	...	...	...	...	...	...	...			
Kiama .....	2,548	2,330	2,300	33	19	22	41	...	...	...	9	6	15	...	...	...	...	...	...	...	...	...	...	1	1	...	...			
Shellharbour .....	38,244	3,450	3,310	7	42	34	76	2	...	2	17	10	27	4	1	5	2	1	3	2	...	2	...	1	1	...	...			
Wollongong, Greater .....	176,416	66,700	65,160	561	750	713	1,463	25	16	41	310	222	532	32	15	47	24	10	34	21	9	30	14	19	33	1	1	2		
Shires—																														
Nattai .....	369,225	5,540	5,500	11	48	41	89	4	3	7	30	25	55	3	2	5	3	1	4	2	1	3	...	...	...	...	...			
Nepean .....	111,040	4,560	4,510	8	47	52	99	2	4	6	28	14	42	1	1	2	1	1	2	1	1	1	...	1	...	...	...			
Shoalhaven* .....	1,151,573	13,300	13,040	102	154	169	323	8	7	15	74	59	133	7	8	15	5	5	10	3	4	7	4	4	8	...	...			
Wingecarribee .....	340,754	7,470	7,360	43	67	79	146	2	7	9	37	31	68	2	3	5	2	2	4	2	...	2	1	2	3	...	...			
Wollondilly .....	632,092	8,230	8,030	25	95	108	203	6	3	9	47	21	68	3	2	5	3	1	4	3	1	4	...	...	...	...	...			
Total .....	2,896,689	120,220	117,750	885	1,301	1,296	2,597	52	47	99	602	436	1,038	56	33	89	44	22	66	35	16	51	21	28	49	1	1	2		

\* On 1st July, 1948, the municipalities of Berry, Broughton Vale, Nowra, Shoalhaven South and Ulladulla and the shires of Cambewarra and Clyde were amalgamated to form the Shire of Shoalhaven. Figures are shown for the full year on the new basis.

#### Causes of Death of Infants Under One Year of Age, 1948.

Cause of Death.	Number of Deaths.		
	Males.	Females.	Persons.
Infective and Parasitic Diseases—			
6 Cerebro-spinal meningeal meningitis .....	1	...	1
10 Diphtheria .....	...	1	1
33 (b) Influenza without respiratory complications...	1	...	1
Diseases of the Blood and Blood Forming Organs—			
75 Diseases of the spleen.....	...	1	1
Diseases of the Nervous System and Sense Organs—			
86 Convulsions in children (under 5 years of age) ...	1	...	1
87 Other diseases of the nervous system—	...	1	1
(e) Others .....	...	1	1
Diseases of the Respiratory System—			
107 Broncho-pneumonia, including capillary bronchitis .....	4	1	5
109 Pneumonia (unspecified) .....	1	2	3
Diseases of the Digestive System—			
115 (a) Diseases of the pharynx and tonsils .....	...	1	1
119 Diarrhoea and enteritis .....	2	1	3
122 (b) Intestinal obstruction .....	1	1	2
Congenital Malformation—			
157 (a) Congenital hydrocephalus .....	2	1	3
(c) Congenital malformation of the heart .....	2	3	5
(d) Monstrosities .....	1	...	1
(i) Other congenital malformations.....	4	1	5
Diseases Peculiar to the First Year of Life—			
158 Congenital debility .....	2	...	2
159 Premature birth .....	16	8	24
160 Injury at birth .....	8	3	11
161 Other diseases peculiar to the first year of life—			
(a) Asphyxia during or after birth, atelectasis .....	3	2	5
(b) Intoxication due to maternal toxæmia .....	1	1	2
(e) Haemorrhagic conditions of the new-born .....	1	3	4
(f) Icterus neonatorum .....	1	1	2
(g) Others.....	4	...	4
Violent or Accidental Deaths—			
195 (d) Other accidents .....	...	1	1
All Causes .....	56	33	89

#### Notifiable Diseases. (See also Tables III, VII, VIII, IX, pages 13, 22, 23, 25, 26 and 29.)

The number of infectious diseases notified during the year 1948 is as follows:—

Diphtheria.—22 cases—7 deaths were notified compared with 13 cases and 1 death in 1947.

Scarlet Fever.—40 cases, compared with 45 in 1947.

Cerebro-spinal Meningitis.—6 cases—2 deaths—nil cases in 1947.

Infantile Paralysis.—2 cases—nil cases in 1947.

#### Diphtheria Immunisation.

Diphtheria immunisation campaigns were conducted by six Councils within the South Coast Health District during the year, viz., Wollongong municipality, the shires of Nepean and Wollondilly, Berry municipality, Nowra municipality and the newly constituted shire of Shoalhaven.

#### Medical Examinations.

During 1948, three medical examinations were carried out at this office. No medical examinations were carried out since February, 1948, owing to the non-appointment of a medical officer of health, vice Dr. E. S. A. Meyers—resigned.

#### Health Education.

Throughout the year, articles received from head office were forwarded to newspapers within the district for publication.

On the 28th January, an address to the South Coast Regional Committee in Planning in relation to Health Administration was given by Dr. E. S. A. Meyers.

#### Control of Tuberculosis.

During the year, thirty cases of tuberculosis occurring in this District were notified. There were ten deaths.

A number of visits to tuberculosis cases were made by Dr. E. C. Wallace, acting medical officer of health, and advice given in the importance of x-raying family contacts, and on money allowances available for T.B. sufferers.

Dr. John Hughes, Deputy-Director of Tuberculosis, visited Wollongong on the 19th and 21st of July, to lecture on tuberculosis at a series of lectures arranged by the Apex Club, Wollongong.

#### Baby Health Centres.

Dr. Grace Cuthbert visited Wollongong on the 10th of March and on the 13th October, 1948, and inspected sites for new baby health centres proposed by the council of the City of Greater Wollongong.

#### Noxious Trades Act.

During the year, forty-five inspections of Noxious Trades Premises were carried out. Sixty-one applications for licences under the Noxious Trades Act, 1902-1944, were received and dealt with as follows:—

Pig-keepers .....	28
Fat-extractors .....	28
Poultry farmers .....	2
Knackers .....	1

Following inspections refusal of issue of licence was recommended in the case of one fat-extractor and one poultry-farmer.

#### Water Supplies.

Five water supplies were investigated during the year and five chemical and bacteriological examinations were collected.

#### Septic Tanks.

Thirty-three inspections of existing septic tanks and 160 inspections of sites for proposed septic tanks were made during the year.

The increasing number of applications for septic tanks within the District emphasised the general public's demand for sanitary conveniences.

#### Sewerage.

The large number of newly-built houses within the South Coast Health District without sewerage and drainage, a number which is increasing month by month, emphasises the total inadequacy of the present sewerage system.

It is hoped that the present shortage of sewerage and drainage pipes will not continue for any lengthy period, as the problem of maintaining reasonable living conditions for the residents of the district is becoming increasingly difficult.

#### Nightsoil Disposal.

Fifty-one inspections were made of existing nightsoil depots, and six inspections of land for proposed new nightsoil depots, were made during the year.

### MITCHELL HEALTH DISTRICT.

#### Report of the Medical Officer of Health for the year ended 31st December, 1948.

**Staff.**—Dr. A. J. Geoffroy, Medical Officer of Health, one Health Inspector, Mr. D. H. Way, one Office Assistant, Miss P. M. Single.

The Mitchell Health District covers an area of approximately 9,650 miles and is made up of the following Municipalities and Shires:—

##### Municipalities.

Bathurst.

Blue Mountains, City of.

Lithgow.

Molong.

Mudgee.

Orange.

##### Shires.

Abercrombie.

Amaroo.

Blaxland.

Canobolas.

Cudgegong.

Gulgong.

Lyndhurst.

Oberon.

Rylstone

Turon.

#### Garbage Disposal.

Twenty-six inspections of existing garbage depots, and one inspection of a proposed new garbage depot were made during the year.

Method of disposal of garbage at depots within the District are still unsatisfactory.

The main sources of complaint were uncovered garbage, noxious odours and rat infestation of the garbage dumps.

#### Nuisances.

A great number of complaints relative to nuisances were received during the year.

One hundred and sixteen inspections of nuisances arising out of these complaints were made.

#### Pure Food Act, 1908.

Sixty-eight inspections of food shops were made during the year.

Though improvement in food hygiene has resulted from these inspections, the need for constant supervision is emphasised.

Pure food inspectors from head office visited and inspected premises within the City of Greater Wollongong in August, October and November, 1948.

The proposed appointment to this district of a full-time pure food inspector, though urgently needed, has not yet eventuated.

It is hoped that the proposed appointment will be made during the forthcoming year.

#### Tourist Camps.

Forty-eight inspections of tourist camps were made during the year.

As a result of these inspections, a noticeable improvement in the sanitary and general conduct of the camps can be seen.

#### Swimming Pools.

Four inspections of swimming pools within the district were made during the year.

#### Legislation.

The need for constant revision of the various Health Acts and Regulations is evident.

In many cases clarification of the regulations seems to be indicated, and recent advances in public health would suggest the need for additional legislative safeguards for the community in general.

#### Legal Proceedings.

Legal proceedings under section 77, Pure Food Act, 1908, were instituted against one person, and under Local Government Ordinance 39 (4) against two persons, were conducted. On each occasion, the defendant was convicted and fined.

#### MITCHELL HEALTH DISTRICT.

#### Report of the Medical Officer of Health for the year ended 31st December, 1948.

From the headquarters at Bathurst the district extends outwards for 50 to 100 miles approximately. The population totals 114,325, mostly centred at the main cities, Katoomba, Lithgow, Bathurst and Orange. Apart from these and scattered townships the country is only sparsely populated.

The activities carried on vary greatly: The Blue Mountains area is almost wholly residential and a holiday resort. Inland various types of farming are carried out—wheat, sheep, dairying, vegetable and fruit growing. Industrial activities include coal mining, both deep and open cut (Lithgow and environs), cement making (Portland, Kandos), clothing and hardware manufacture, and canning and preserving of vegetables and fruits.

#### Topography.

The nature of the country changes abruptly from the fertile flats of the Nepean River (the eastern boundary) to the Blue Mountains (highest point above sea level—3,500 feet) which gradually give way to undulating slopes flattening out to the western boundary.

**Vital Statistics, 1948.**

**Population.**—The population of the district at 31st December, 1948, was estimated at 116,160, while the estimated mean population for 1948 was 115,580.

**Marriages.**—During 1948, 938 marriages were celebrated in the district, equal to a rate of 8.12 per 1,000 of mean population.

**Live Births.**—There were 2,676 live births to mothers resident in the district, equivalent to a rate of 23.15 per 1,000 of mean population. Of these, 1,356 were males and 1,320 females.

**Ex-Nuptial Live Births.**—These numbered 108, equivalent to a rate of 0.93 per 1,000 of mean population. The ex-nuptial live births represented 4.04 per cent. of the total live births.

**Deaths.**—The deaths of residents numbered 1,102, equivalent to a rate of 9.53 per 1,000 of mean population. Of these, 635 were males and 467 females.

**Infantile Mortality.**—Deaths under 1 year of age numbered 96, equal to a rate of 35.87 per 1,000 live births.

Of the total number of deaths of infants under 1 year of age, 60, or 62.50 per cent., occurred within one week of birth, and 70, or 72.92 per cent., within the first month. The corresponding rates per 1,000 live births for the two age groups were 22.42 and 26.16, respectively.

**Stillbirths.**—There were fifty-eight stillbirths to mothers resident in the district, equal to a rate of 0.50 per 1,000 of mean population, and representing 2.12 per cent. of all births (live and still).

**Marriages, Live Births, Stillbirths and Deaths—Each Local Government Area, 1948.**

Municipality or Shire.	Area	Estimated Population.	Marri-ages.	Live Births.						Deaths.						Stillbirths.						
				Total.			Ex-nuptial.			All Ages.			Under 1 Year.		Under 1 Month.		Under 1 Week.		Total.			
				M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	
	acres.																					
Municipalities—																						
Bathurst .....	2,990	11,950	11,930	144	152	156	308	8	5	13	68	54	122	3	5	8	3	4	7	1	2	3
Blue Mountains .....	344,698	21,440	21,400	116	203	196	399	13	15	28	123	109	232	8	7	15	6	5	11	4	8	5
Lithgow .....	5,095	14,590	14,550	171	191	198	389	5	5	10	62	42	104	9	4	13	5	3	8	5	2	7
Molong .....	6,374	1,680	1,670	22	21	22	43	...	1	1	14	11	25	3	2	5	1	2	3	1	1	2
Mudgee .....	802	4,200	4,190	84	52	48	100	2	1	3	36	22	58	2	2	4	2	2	4	1	2	3
Orange .....	1,977	13,920	13,870	193	179	175	354	8	10	18	69	65	134	7	4	11	4	4	8	3	6	4
Shires—																						
Abercrombie ...	576,905	3,910	3,910	11	48	27	75	...	...	16	16	32	2	2	4	2	1	3	1	2	2	4
Amaroo .....	494,080	2,250	2,240	6	36	32	68	2	1	3	20	9	29	2	1	3	2	1	3	1	...	...
Blaxland .....	852,098	9,360	9,340	24	101	105	206	3	5	8	47	34	81	3	4	7	3	3	6	2	2	4
Canobolas .....	410,367	7,580	7,570	3	85	64	149	3	5	8	35	32	67	3	3	6	2	1	3	2	1	3
Cudgegong .....	862,790	4,240	4,230	2	40	34	74	1	...	1	22	10	32	1	1	1	1	1	1	1	1	1
Gulgong .....	469,942	3,330	3,320	15	35	43	78	...	...	26	5	31	5	3	8	5	2	7	5	1	6	1
Lyndhurst .....	399,332	6,100	6,090	39	61	81	142	1	4	5	35	27	62	1	2	3	...	1	1	1	3	4
Oberon .....	722,533	3,260	3,240	7	45	47	92	...	3	3	13	6	19	3	...	3	3	...	3	1	2	3
Rylstone .....	945,920	4,370	4,360	32	55	53	108	3	2	5	22	15	37	...	2	2	...	1	1	1	4	4
Turon .....	581,436	3,980	3,670	69	52	39	91	...	2	2	27	10	37	2	1	3	1	...	1	1	1	1
Total .....	6,677,339	116,160	115,580	938	1,356	1,320	2,676	49	59	108	635	467	1,102	54	42	96	40	30	70	35	25	60

**Causes of Death of Infants Under One Year of Age, 1948.**

Cause of Death.	Number of Deaths.		
	Males.	Females.	Persons.
Infective and Parasitic Diseases—			
6 Cerebro-spinal meningococcal meningitis .....	...	2	2
9 Whooping cough .....	...	1	1
Rheumatism, Diseases of Nutrition, and of the Endocrine Glands, Other General Diseases, and Vitamin Deficiency Diseases—			
63 (c) Myxoedema and cretinism .....	...	1	1
Diseases of the Nervous System and Sense Organs—	1	...	1
85 Epilepsy .....	1	...	1
Diseases of the Respiratory System—			
107 Broncho-pneumonia, including capillary bronchitis .....	4	1	5
108 Lobar Pneumonia .....	1	...	1
109 Pneumonia (unspecified) .....	2	3	5
Diseases of the Digestive System—			
119 Diarrhoea and Enteritis .....	2	1	3
122 (b) Intestinal obstruction .....	1	1	2
Diseases of the Genito-urinary System—			
130 Acute Nephritis .....	1	...	1
Diseases of the Skin and Cellular Tissue—			
153 Other diseases of the skin and annexa and of cellular tissue .....	...	1	1
Congenital Malformations—			
157 Congenital malformations—			
(a) Congenital hydrocephalus .....	1	...	1
(b) Spina bifida and meningocele .....	...	2	2
(c) Congenital malformation of the heart .....	3	1	4
(d) Monstrosities .....	...	1	1
(e) Congenital pyloric stenosis .....	1	...	1
(f) Other congenital malformations .....	1	...	1
Diseases Peculiar to the First Year of Life—			
158 Congenital Debility .....	4	...	4
159 Premature birth .....	20	17	37
160 Injury at birth .....	2	5	7
161 Other diseases peculiar to the first year of life—			
(a) Asphyxia during or after birth, atelectasis .....	5	2	7
(b) Intoxication due to maternal toxæmia .....	1	...	1
(g) Others .....	2	1	3
Violent or Accidental Deaths—			
165 Infanticide .....	...	1	1
182 Mechanical suffocation .....	1	1	2
195 (d) Other accidents .....	1	...	1
All Causes .....	54	42	96

**Health Services in the District.**

Public Hospitals.	Beds Available.			
	General.	Maternity.	Infectious.	Children.
A.R.C. Society, Bodington ...	100	...	...	...
Blue Mts. Anzac Memorial ...	58	20	...	11
Bathurst District ...	48	14	20	15
Bathurst District Macquarie Homes .....	72	...	...	72
Blayney District .....	15	4	...	2
Carcoar District .....	12	4	4	22
Gulgong District .....	21	6	2	4
Lithgow District .....	65	25	20	31
Molong District ..				

Part Time.—Two, located at Molong, Blayney, Millthorpe, Oberon, Lawson, Blaekheath, Littleton, Portland, Rylstone, Kandos, Gulgong.

#### District Ambulance Stations.

Located at Penrith, Katoomba, Lithgow, Bathurst, Orange, Molong, Mudgee and Glen Davis.

#### Public Water Supplies.

Generally under the control of the local shire or municipal council, the constructing authority being the Public Works Department. In most cases the water supply is a river or creek across which is constructed a storage reservoir. Schemes are under way for the bringing of water over a distance as in the case of water from the Fish River (for Wallerawang, Lithgow, and Glen Davis) and from the Central Tablelands for certain towns in the Lyndhurst shire. In Gulgong and Portland, sub-artesian supplies exist.

No treatment is given to water supplies, either filtration or chlorination, except in the case of Orange (filtration). There are occasional complaints such as muddiness after heavy rains (e.g., Bathurst supply) or discolouration from mineral matter (Katoomba).

Bacteriological tests taken periodically by the Public Works Department have generally been satisfactory. Special examinations in 1947 for fluorine content showed this to be very low—between 0.00 ppm. (Lithgow) and 0.15 ppm. (Bathurst). That of sub-artesian water at Gulgong, however, was 0.85 ppm.

#### Sewerage.

Sewered localities are as follows: Blue Mountains City, Lithgow, Bathurst, Orange, Mudgee. The schemes are not complete in any of these, however, so that there are a number of pan services in all. In some cases the sewage treatment works are not functioning efficiently. Undoubtedly extensions are needed to sewer networks and some towns not yet sewered are in need of it. There is a deplorable lack of planning in many cases with the result that the town inevitably outgrows the provisions made for the disposal of its wastes with unhealthy conditions resulting.

#### Public Swimming Pools.

A few isolated pools exist in the Blue Mountains area fed by small springs. The pool at Bathurst is filled by the town water supply. A new Olympic pool for Bathurst is contemplated, site not yet decided.

#### Local Authorities.

Name.	Area.	Mean Population. (1947 census)	Health Inspector
Municipalities—			
Bathurst .....	3,000 acres	11,889	2 full time.
Blue Mts. City of .....	570 sq. mls.	21,213	5 full time.
Lithgow .....	4,325 acres	14,462	2 full time.
Molong .....	6,374 acres	1,661	1 full time.
Mudgee .....	802 acres	4,169	1 full time.
Orange .....	5,000 acres	13,785	3 full time.
Shires—			
Abercrombie .....	900 sq. mls.	3,798	Nil (Engineer).
Amaroo .....	772 sq. mls.	2,244	Nil (Engineer).
Blaixland .....	1,331 sq. mls.	9,320	1 full time.
Canobolas .....	636 sq. mls.	7,166	1 full time.
Cudgegong .....	1,348 sq. mls.	4,237	1 full time.
Gulgong .....	734 sq. mls.	3,317	1 full time.
Lyndhurst .....	600 sq. mls.	6,063	1 full time.
Oberon .....	1,160 sq. mls.	3,217	1 full time.
Rylstone .....	1,478 sq. mls.	4,341	1 full time.
Turon.....	90 sq. mls.	3,443	Nil (Engineer).
Total, approx. .....	9,650 sq. mls.	114,325	21

#### Infectious Diseases Notified.

See Tables V, VII, VIII, IX, pp. 15, 22, 23, 25, 26 and 29.

### RICHMOND-TWEED HEALTH DISTRICT.

#### Report of Medical Officer of Health, J. J. Donnellan, M.B., Ch.M., D.P.H., for the year ended 31st December, 1948.

This district was established on the 1st December, 1947, consequently this is the first report on a whole year's administration.

The district extends from South Grafton in the south to the Queensland border in the north, and westward as far as the western borders of Copmanhurst and Kyogle shires. Its eastern boundary is the coastline from Yamba on the Clarence River to the Queensland border.

It embraces two cities, six municipalities and ten shires—population approximately 116,000.

The office is staffed with the medical officer of health—Dr. J. J. Donnellan, a senior health inspector—Mr. R. C. Turner and an office assistant—Miss P. M. Grennan.

Only about half the total number of shires and municipalities conducted campaigns against diphtheria in 1948. The total number of children immunised amounted to about 600.

#### Housing.

Generally fair, though in some parts of the district slum conditions exist. There is urgent need for more houses and repairs to existing ones but owing to the slow rate of construction and the shortage of material and labour the demand cannot be met.

#### Pure Food Act.

No pure food inspector has yet been appointed to the district staff, the arrangement being for one to make periodical visits from the Pure Food Branch, Head Office, Sydney.

#### Noxious Trades Act.

Licensees issued in respect of each trade are as follows:—

Pig keeper .....	49
Fat extractor .....	36
Manure maker .....	1
Blood boiler and dryer .....	1
Blood boiler .....	1
Bone grinder .....	1
Knacker .....	1
Gut seraper .....	3
	93
	—

#### General Administration.

The setting up of the Mitchell Health District with its headquarters at Bathurst introduced a change of procedure on the part of the local authorities. Matters, for example, previously sent direct to head office are of course now required to go to the district office, for example—*infectious disease notifications, septic tank applications*. Generally speaking, the supervision given and the advice offered by officers of this district have been appreciated by local authorities.

Numerous matters dealt with under the Public Health Act, Pure Food Act, Local Government Act and the Noxious Trades Act, have received attention by this office in co-operation with the local authorities.

#### Inspections Made During the Year.

Investigation of complaints .....	39
Investigation garbage removal services .....	8
Investigation of sanitary services .....	3
Investigation of water supplies .....	6
Investigation of typhoid fever outbreaks .....	2
Inspection of hotels .....	4
Inspection of sanitary depots .....	43
Inspection of proposed sanitary depots .....	3
Inspection of garbage depots .....	49
Inspection of septic tank sites .....	135
Inspection of existing septic tanks .....	32
Inspection of noxious trade premises .....	119
Inspection of proposed noxious trade premises ..	2
Inspection of dwellings .....	34
Inspection of food premises .....	14
Inspection of sewerage treatment works .....	2
Inspection of chemical closets .....	12
Inspection of swimming pools .....	2
Inspection of low-lying land .....	2
Inspection of barber's shops .....	3
Collection of water samples—	
Chemical .....	18
Microbiological .....	18
Attending Licensing Courts .....	1

#### Public Health Education.

A health display was shown at the Orange Annual Show, 1948, and created great interest. During the year various Departmental booklets and leaflets were distributed.

#### Vital Statistics, 1948.

*Population.*—The population of the district at 31st December, 1948, was estimated at 114,970, while the estimated mean population for 1948 was 113,970.

*Marriages.*—During 1948, 1,062 marriages were celebrated in the district, equal to a rate of 9.32 per 1,000 of mean population.

*Live Births.*—There were 3,104 live births to mothers resident in the district, equivalent to a rate of 27.24 per 1,000 of mean population. Of these, 1,580 were males and 1,524 females.

*Ex-Nuptial Live Births.*—These numbered 119, equivalent to a rate of 1.04 per 1,000 of mean population. The ex-nuptial live births represented 3.83 per cent. of total live births.

*Deaths.*—The deaths of residents numbered 844, equivalent to a rate of 7.41 per 1,000 of mean population. Of these, 488 were males and 356 females.

*Infantile Mortality.*—Deaths under 1 year of age numbered 74, equal to a rate of 23.84 per 1,000 live births.

Of the total number of deaths of infants under 1 year of age, 48 or 64.86 per cent. occurred within one week of birth, and 53 or 71.62 per cent. within the first month. The corresponding rates per 1,000 live births for the two age groups were 15.46 and 17.07 respectively.

*Stillbirths.*—There were 70 stillbirths to mothers resident in the district, equal to a rate of 0.61 per 1,000 of mean population, and representing 2.21 per cent. of all births (live and still).

Marriages, Live Births, Stillbirths and Deaths—Each Local Government Area, 1948.

Municipality or Shire.	Area	Estimated Population.	Marriages.	Live Births.						Deaths.						Stillbirths.												
				Total.			Ex-nuptial.			All Ages.			Under 1 Year.		Under 1 Month.		Under 1 Week.		Total.									
				M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.							
acres.																												
<b>Municipalities—</b>																												
Ballina .....	5,756	3,250	3,230	43	52	42	94	3	1	22	10	32	3	1	4	1	1	2	1	3	...							
Casino .....	3,947	6,930	6,820	118	101	111	212	6	5	11	33	18	51	1	4	5	1	3	4	1	5							
Grafton .....	2,578	8,530	8,420	133	116	98	214	4	6	10	51	38	89	2	...	2	1	...	1	1	1							
Grafton South .....	1,379	3,910	3,840	43	63	66	129	3	3	6	24	19	43	2	2	4	2	1	3	1	2							
Lismore .....	8,267	15,620	15,440	288	196	181	377	6	5	11	67	62	129	3	4	7	2	2	4	7	7							
Maclean .....	1,278	1,720	1,700	32	16	24	40	...	2	2	5	7	12	...	...	...	...	...	...	1	1							
Mullumbimby .....	1,103	1,660	1,640	37	21	23	49	2	2	4	5	7	12	...	...	...	...	...	...	...	...							
Ulmarra .....	29,810	1,650	1,640	8	11	20	31	...	1	1	10	5	15	...	1	1	...	1	1	...	...							
<b>Shires—</b>																												
Byron .....	137,600	9,010	8,890	28	117	109	226	5	3	8	35	18	53	...	1	1	...	1	1	2	3							
Copmanhurst .....	774,080	2,620	2,610	...	29	24	53	1	2	3	12	16	28	...	...	...	...	...	1	1	...							
Gundurimba .....	115,179	3,950	3,930	1	48	40	88	4	2	6	8	6	14	1	...	1	1	...	1	1	...							
Harwood .....	210,880	4,720	4,690	8	50	55	105	1	...	1	18	15	33	...	1	1	...	1	1	1	1							
Kyogle .....	858,880	11,620	11,530	95	180	175	355	11	7	18	54	33	87	7	6	13	4	5	9	6	3							
Terania .....	217,630	7,080	7,010	19	118	114	232	4	2	6	20	15	35	4	4	8	3	3	6	3	1							
Tintenbar .....	114,560	4,810	4,780	12	57	58	115	...	2	2	22	11	33	3	2	5	2	...	2	2	...							
Tomki .....	280,113	3,670	3,660	2	43	51	94	1	2	3	9	11	20	2	3	5	2	2	4	3	1							
Tweed .....	322,066	19,830	19,610	182	303	278	581	9	7	16	76	51	127	6	7	13	5	6	11	2	6							
Woodburn .....	346,230	4,390	4,350	13	59	50	109	3	4	7	17	14	31	3	1	4	3	1	4	2	1							
<b>Total .....</b>	<b>3,431,836</b>	<b>114,970</b>	<b>113,790</b>	<b>1,062</b>	<b>1,580</b>	<b>1,524</b>	<b>3,104</b>	<b>63</b>	<b>56</b>	<b>119</b>	<b>488</b>	<b>356</b>	<b>844</b>	<b>37</b>	<b>37</b>	<b>74</b>	<b>27</b>	<b>26</b>	<b>53</b>	<b>22</b>	<b>26</b>	<b>48</b>	<b>39</b>	<b>31</b>	<b>70</b>	<b>6</b>	<b>3</b>	<b>9</b>

Causes of Death of Infants Under One Year of Age, 1948.

Cause of Death.	Number of Deaths.		
	Males.	Females.	Persons
<b>Infective and Parasitic Diseases—</b>			
10 Diphtheria .....	...	1	1
15 { Tuberculosis of Intestines and Peritoneum—			
(b) Other sites .....	1	...	1
33 (b) Influenza without respiratory complications .....	...	1	1
<b>Rheumatism, Diseases of Nutrition, and of the Endocrine Glands. Other General Diseases and Vitamin Deficiency Diseases—</b>			
66 (b) Pink disease.....	1	...	1
<b>Diseases of the Nervous System and Sense Organs—</b>			
81 (a) Simple Meningitis .....	2	1	3
<b>Diseases of the Respiratory System—</b>			
107 Broncho-pneumonia, including capillary bronchitis .....	...	3	3
108 Lobar Pneumonia .....	1	1	2
109 Pneumonia (unspecified) .....	...	2	2
<b>Diseases of the Digestive System—</b>			
119. Diarrhoea and enteritis .....	4	...	4
122 (b) Intestinal obstruction .....	...	1	1
<b>Diseases of the Genito-Urinary System—</b>			
133 Other diseases of the kidneys and ureters.....	1	...	1
<b>Congenital Malformations—</b>			
157 (a) Congenital hydrocephalus .....	...	1	1
(c) Congenital malformation of the heart .....	1	4	5
<b>Diseases Peculiar to the First Year of Life—</b>			
158 Congenital debility .....	...	1	1
159 Premature birth .....	15	11	26
160 Injury at birth .....	7	6	13
161 Other diseases peculiar to the first year of life—			
(a) Asphyxia during or after birth, atelectasis .....	2	...	2
(b) Intoxication due to maternal toxæmia .....	...	1	1
(c) Haemorrhagic conditions of the new-born .....	...	1	1
(d) Others.....	...	1	1
<b>Violent or Accidental Deaths—Accidents—</b>			
170 Automobiles—	1	...	1
(c) Other automobiles .....	1	...	1
181 Burns (conflagration excepted) .....	1	...	1
182 Mechanical suffocation .....	...	1	1
All Causes .....	37	37	74

Health Services in the District.

There are ten public hospitals with 782 beds and seven private hospitals with 168 beds, i.e., roughly one hospital bed for each 116 people.

There are two full-time baby health centres and ten part-time baby health centres.

There are nine ambulance stations and three sub-stations.

Sanitary Circumstances in the District.

In many respects the sanitation of this district could not be considered satisfactory so efforts have been or are being made to improve conditions wherever necessary.

This work has been carried out by constant inspections and bringing under the notice of the various local authorities any unsatisfactory conditions that have been found.

The co-operation of the local authorities in this respect has been very gratifying, so much so that it can be said that considerable improvement has been effected and plans for still greater improvements are being put into operation.

Public water supplies, where installed, are services by the local authorities. The city of Lismore draws its water supply direct from Wilson's Creek, part of the north arm of the Richmond River. There is a plentiful supply of water, but the quality is not good, as the catchment district comprises farm lands stocked with bovines and pigs, and therefore liable to contamination. Also, during the summer months, there is a weed taint in the water which gives it an objectionable odour when drawn from the taps.

No treatment is applied to the water before reticulation to the houses.

The City Council and the Rous County Council are aware of the necessity for an improved water supply and have a plan to obtain a water supply from the hill country at Rocky Creek. This scheme, when complete, will supply water to Lismore, Byron Bay, and to towns on the lower Richmond River, viz.: Coraki, Woodburn and Evans Head, and will substitute pure water supplies for what are at present unsatisfactory ones.

The city of Grafton and the municipality of South Grafton obtain their water supply from the Nymboida River, where there is a large hydro-electric scheme in operation and the supply is generally regarded as good.

This water is to be extended to supply towns on the lower Clarence River, viz.: Ulmarra, Maclean and Yamba.

Murwillumbah obtains its water supply from two sources. (1) Catchment area on Mount Warning. (2) An arm of the Tweed River.

The Casino municipality draws its water supply from the south arm of the Richmond River, the intake being close to the township. The water is filtered before reticulation to the town.

Kyogle draws its water from Fawcett's Creek, a tributary of the south arm of the Richmond River. This water, also, is filtered before reticulation to the town.

Ballina municipality draws its supply from a creek in the Alstonville district. It gravitates by pipeline to the township for reticulation from service reservoir.

Lismore, Grafton and Casino have modern sewage treatment works, which have been in operation for some years. Kyogle also has a treatment works constructed and a commencement has been made to connect premises in the township to the mains. This work has been held up during the war owing to shortage of labour.

A proposal has been made to sewer Murwillumbah and work on this project is expected to commence in the near future.

The town of Mullumbimby has also been surveyed for a sewerage scheme.

Other centres of population obtain their water supplies mainly from roof catchments and in some instances these are augmented by supplies from spear points and wells.

The city of Lismore and the towns of Murwillumbah and Kyogle have public swimming pools with modern filtration plants.

A public swimming pool for Casino is proposed and plans have been prepared.

The swimming pool at Grafton is part of the Clarence River, but plans have now been prepared for a public swimming pool of Olympic standard.

There is also a swimming pool on the Clarence River at Maclean.

There are no public abattoirs in the district, but meat inspection schemes to provide slaughteryards with full-time meat inspectors are carried out in connection with supplies for both Lismore and Grafton. In addition to the slaughteryards there are meat works at Casino and a bacon factory at Lismore and Byron Bay. There are seventy slaughteryards in the district.

#### Public Health Act.

*Notifiable Infectious Diseases. See Tables IV, VII, VIII, IX, pages 15, 22, 23, 25, 26 and 29.*

Tuberculosis .....	23
Diphtheria .....	73
Infantile Paralysis .....	—
Encephalitis Lethargica .....	—
Yellow Fever .....	—
Cholera .....	—
Bubonic Plague .....	—
Typhoid Fever .....	3
Scarlet Fever .....	23
Cerebro-spinal Meningitis .....	3
Typhus Fever .....	6
Undulant Fever .....	1
Puerperal Infection .....	3
Smallpox .....	—

The provisions of the Act with regard to infectious diseases have been found generally to receive proper attention by the local authorities.

During the year 1948 diphtheria immunisation campaigns were carried out by eleven out of the eighteen local authorities.

Follow-up work on tuberculosis case contacts has been carried out and the necessary advice given.

Three cases of typhoid occurred during the year in three female children from one household. Appropriate precautions were immediately taken by the local authority with regard to the disposal of excreta, etc. Contacts were vaccinated and all the nurses on the staff of the Lismore Base Hospital in attendance to the patients were also vaccinated. An investigation as to the cause of the outbreak was undertaken but did not result in any positive finding. No further cases occurred.

Judging from several investigations which have been carried out during the year it is considered that the incidence of hookworm amongst the coloured population is considerable. Several pockets of infection have been discovered.

The incidence of hookworm amongst the whites is not known, as hookworm infestation is not a notifiable disease in New South Wales.

A disturbing feature of public health importance in this district is the rather high incidence of tuberculosis in dairy herds, as found by veterinary officers of the Department of Agriculture, coupled with the fact that considerable quantities of raw milk are sold in various towns in the district.

As there is no obligation on dairymen to have their herds certified T.B.-free, it is felt that considerable risk of infection is incurred by drinking this raw milk.

A proposal was recently put forward by Lismore Municipal Council for a scheme to supply Lismore with T.B.-free milk by having the Milk Act applied to the area.

The members of the Milk Board were invited to Lismore and addressed a public meeting. Considerable opposition to the scheme was evident at the meeting, the opposition being mainly for economic reasons, such as increased costs, and the question of compensation for condemned beasts. Unfortunately, the proposal was dropped.

It is felt that by dropping this proposal an opportunity to further the public health of the district has been lost, another of the many examples of public health having to play second fiddle to economics.

Pasteurised milk, however, is obtainable in most towns.

Owing to the acute housing shortage and the shortage of labour and materials councils generally throughout the district have been unable to enforce the necessary repairs and renovations to substandard homes. This office has been making every endeavour to keep such work on the way and one council recently instituted legal proceedings under the Act to enforce repairs to dwellings where insanitary conditions were brought under notice by this office.

#### Local Government Act.

Throughout the year inspections have been made of sanitary and garbage depots and local authorities required to bring such depots up to standard. Much good work has been done by local authorities in this regard. Attention has been paid to nightsoil cleansing plants and several new plants have been installed.

The proper disposal of garbage and the elimination of rat harbourages at such depots has been required. Unsatisfactory closets, cesspits and septic tanks were found and have been brought under the notice of the local authorities and remedial action taken.

Seven local authorities in the district were without the services of a health inspector. Steps have been taken by this office urging some of these local authorities to appoint health inspectors and favourable results are anticipated from these representations.

Several popular tourist resorts extend all along the coast from Yamba in the south to Tweed Heads in the north. These attract a large number of tourists from all parts of the state during the season leading to a large increase in the local population.

Camping sites at these areas are controlled by the local authorities and strict supervision of the sanitation of these camps is necessary.

The number of septic tanks approved by the Board during the year was thirty-eight (38).

#### Pure Food Act.

No food inspector has yet been appointed to the staff of this office.

Periodical visits are paid to this district by a food inspector from head office and inspections made of food premises and samples taken for analyses.

Samples are also taken by health inspectors of the local authorities.

It is felt that the adequate supervision of all food premises in this district owing to their large number requires the services of a food inspector attached full-time to this office.

#### Noxious Trades Act.

Licenses issued under the Act number one hundred and seventy-six (176).

Inspections of noxious trades premises disclosed that earlier in the year they were generally below standard. There has, however, been some improvement in the condition of such premises during the year. Warning notices have been issued through the local authorities where premises were not brought up to standard. At the instigation of this office in three instances legal proceedings to enforce satisfactory conditions were taken by local authorities.

#### Public Health Education.

This aspect of the work has been carried out during the year by addresses to rotary clubs, schools, etc., by exhibition of films, newspaper articles and broadcast talks. Lectures on hygiene are given by the medical officer of health to the nurses at the Lismore Base Hospital as part of their training course.

A dietitian from head office was attached to this office during the year and did excellent work addressing nurses in training hospitals, mothers at baby health centres and the children in the schools and members of other organisations.

The work of this office has on many occasions been facilitated by the help and co-operation received from the medical officer and his staff of the Commonwealth Health Laboratory at Lismore.

#### General Administration.

Mileage travelled by officers on duty.  
Medical officer of health—6,528 miles.  
Senior health inspector—11,077 miles.

#### Inspections.

Medical examinations .....	11
Investigation of infectious diseases .....	4
Investigation of infectious diseases amongst aborigines .....	4
Aborigines reserves .....	5
Town water supplies .....	4
Private water supplies .....	9
Collecting water samples .....	7
Catchment districts .....	3
Factories .....	3
Industrial hygiene investigation .....	3
Sanitary depots .....	37
Garbage depots .....	16
Proposed sanitary disposal sites .....	14

Dwellings .....	16
Hotels .....	40
Barbers' shops .....	117
Butchers' shops .....	2
Other food premises .....	2
Septic tanks .....	20
Septic tank effluent disposal .....	7
Septic tank sites .....	57
Septic tanks in course of construction .....	3
Reserves .....	2
Tourist camps .....	13
Showgrounds .....	6
Site for chemical closet .....	1
Attendance at court .....	2
Complaints .....	9
Nuisances .....	4
Housing project .....	1
Noxious trades premises .....	161
Unhealthy building land .....	27
Other inspections .....	42
Health education talks and lectures .....	65
Private hospital enquiry .....	1
Public schools .....	1
Scavenging district .....	2
Sewage treatment works .....	2

#### Office Routine.

The number of letters despatched during the year 1948—1190.

## BROKEN HILL AND DISTRICT.

#### Report of Medical Officer of Health—J. T. Cullen, M.B.B.S., for the year ended 31st December, 1948.

The population of Broken Hill municipal district at 31st December, 1948, was estimated at 27,650, which represents an increase of 250 when compared with that for the previous year.

The death for the period under review numbered 296 (males 181, females 115). There were 781 births for the twelve months comprising 405 males and 376 females.

#### Infectious Diseases.

The monthly incidence of notifiable infectious diseases was as follows:—

	Typhoid Fever.	Scarlet Fever.	Diphtheria.	Meningo-coccal Meningitis.	Puerperal Infection.	Infantile Paralysis.
January .....	...	2	...	...	...	...
February .....	...	...	...	...	...	...
March .....	...	...	...	...	...	...
April .....	...	...	...	...	...	...
May .....	...	1	...	...	...	...
June .....	...	...	...	...	...	...
July .....	...	...	...	...	...	...
August .....	...	...	...	...	...	...
September .....	...	...	...	...	...	...
October .....	...	1	...	...	...	...
November .....	...	...	...	...	...	...
December .....	...	...	...	...	...	...
Totals .....	Nil.	4	Nil.	Nil.	Nil.	Nil.

The remarkably low incidence of infectious diseases is noteworthy. Four (4) cases of scarlet fever were reported, but the incidence of other infectious diseases was nil. This is a record low incidence for Broken Hill, and must surely be remarkable for a community with a population of 27,650.

The incidence of notifiable infectious diseases at Broken Hill during the past five years is shown in the following table.

Disease.	1944.	1945.	1946.	1947.	1948.
Typhoid and Paratyphoid .....	...	2	...	2	...
Scarlet Fever .....	63 (1 N.I.)	44	27 (1 N.I.)	47	4
Diphtheria .....	9	34	91 (L N.I.)	6	...
Meningococcal Meningitis .....	...	1	1	1	...
Infantile Paralysis .....	...	...	3	...	...

The aboriginal station at Menindee was visited as usual, two visits being made during the period under review. The general state of health of the inhabitants was good. No serious illness occurred, and there was no incidence of tuberculosis. The camp has now been shifted to Murren Bridge.

At the Anti-Tuberculosis Clinic eighty new cases were investigated, and the total number of attendances at the clinic during the period under review was 515, a decrease of 269 when compared with those of the previous twelve months.

## SECTION III.

## STATE HOSPITALS AND HOMES.

## Strickland Convalescent Hospital, Vaucluse.

Visiting Emergency Medical Officer.—Dr. R. C. Traill.

Matron.—Miss H. McGregor.

Clerical Staff.—Mr. D. W. A. McHarg

Trained Nurses.—Four (4).

Assistant Nurses.—Three (3).

Female House Staff.—Seven (7).

Outdoor Attendant.—One (1). Night Attendant.—One (1).

Attendant Cleaner.—One (1).

Patients Bed Accommodation : Males, 40; Females, 70; Inmate Workers, 21. Remaining in Hospital, 31st December, 1947 : Males, 18; Females, 44; Inmate Workers, 17.

	Male.	Female.	Total.
Patients admitted during 1948 .....	275	634	909
Patients discharged during 1948 .....	260	641	901
Patients deceased during 1948 .....	1	Nil	1
Remaining in Hospital 31st December, 1948	32	37	69
And 15 Inmate Workers.			

Daily Average : Male, 24; Female, 45; Inmate Workers, 16.

Maintenance and donations for the year amounted to £1,193.

At this hospital patients are received from metropolitan hospitals, hospital admission depot and a number from country hospital. The majority of patients are very well satisfied and appreciate the care and attention given them.

On discharge they shew marked gain in weight and general health. This is very evident at present as hospitals discharge their patients in a very weak condition due to the overcrowding of beds.

A number of patients have been in plaster and have to visit the out-patients' department at various hospitals—some daily. A small number also receive deep-ray treatment.

A very small percentage have to be returned to hospital for further treatment.

General maintenance for the year has been carried out by the Public Works Department and local labour.

## PARTICULARS OF EXPENDITURE INCURRED BY OTHER DEPARTMENTS FOR YEAR ENDED 31st December, 1948.

	£	s.	d.
Stationery and Office Requisites .....	2	2	6
Furniture .....	894	5	0
Clothing and Drapery .....	826	0	0
Hardware, Ironmongery and General Stores .....	333	0	6
Electricity .....	203	19	6
Gas .....	50	10	4
Water and Sewerage .....	24	19	10
Telephone .....	26	1	10
	£	2,360	19
		6	

## EXCHANGE ACCOUNT.

	£	s.	d.
Lidcombe Relieving Attendant's Salary .....	158	8	11
Lidcombe Lorry Charges .....	20	7	7
Newington Laundry Account .....	421	9	5
	£	600	5
		11	

## SALES EX CARRARA.

	£	s.	d.
Sale of Bottles .....	0	17	6

Value of Stock on hand as at 31st December, 1948...£ 1,186 13 7

## STATE HOSPITAL AND HOME, LIDCOMBE.

## Report of Medical Superintendent for the year ending 31st December, 1948.

*Honorary Visiting Staff.*—Hon. Staff Surgeon, H. C. Rutherford Darling, L.R.C.P. (Lond.), M.R.C.S. (Eng.), F.R.C.S. (Eng.), M.B., B.S., M.D., M.S. (Lond.), L.F.P.S. (Glas.); Assistant Hon. Surgeon, J. A. Lawson, M.B., Ch.M., F.R.A.C.S.; Hon. Ophthalmic Surgeons, A. E. Fraser Chaffer M.B., Ch.M.; F. J. A. Pockley, M.B., B.S.; C. E. H. Beckett, M.B.; Hon. Urologist, C. M. Edwards, M.B., Ch.M.; H. G. Cummine, M.B., B.S. & M.S.; Assistant Urologist; Hon. Dermatologist, R. J. Nowland, M.B., B.S.; Ear, Nose and Throat Surgeon, R. E. Dunn, M.B., B.S., B.Sc.; Radiologist, Colin R. Cole, M.B., Ch.M.; Dentist, D. G. Brown.

*Staff Administrative.*—Medical Superintendent, E. J. Brooks, M.B., Ch.M.; Deputy Superintendent, G. S. Procopis, M.B., M.R.A.C.P.; Senior Medical Officer, N. C. Wright, L.R.C.P., L.R.C.S. (Edin.), L.R.F.P.S. (Glas.), M.R.C.P. (Edin.); Junior Medical Officers, P. B. Hagen, M.B., B.S.; W. T. Leslie, M.B., Ch.D.; W. A. Moylan, M.B., B.S.

Manager, S. J. Warner.

Matron, Miss A. J. Carr.

Nurses, thirty-nine.

Other Female Staff, sixteen.

Attendants, 167.

Other Male Staff, forty-eight.

Number of beds available as at 31st December, 1948, 818 hospital; 650, dormitories; total, 1,468.

Daily average number of patients and inmates resident.—

1946 .....	1,201
1947 .....	1,137
1948 .....	1,133

Admissions—Discharges—	Hospital Division.	General Division.	Total.
Institution 1st January, 1948 .....	673	417	1,090
Admissions .....	1,141	1,334	2,475
Transfer from yard and other Sections...	289	182	471
	2,103	1,933	4,036
Discharges .....	692	1,229	1,921
Deaths .....	515	1	516
Transfers to other Sections .....	182	289	471
	1,389	1,519	2,908
In Institution 31st December, 1948 ...	714	414	1,128

Daily average numbers in residence during the year.—Hospital Division, 719; General Division, 414; total, 1,133.

*Casual Relief.*—One hundred and eighteen indigent persons were provided with sleeping accommodation for one night, 518 were supplied with a meal.

*Total Cost of Maintenance and Treatment.*—£178,045 4s. 10d.*Average Annual cost per patient or inmate.*—£157 2s. 11d.

During the year 138 major operations were performed.

Three thousand eight hundred and sixty-three cases were examined in the x-ray department, including examination of staff as prescribed by the award made by Judge Kinsella.

Three thousand two hundred and sixty-eight specimens were examined in the pathological department.

One hundred and seventy electrocardiograms were taken and reported on.

*Laundry.*—1,136,447 articles were laundered.

Farm.—Sale of pigs, etc., realised £793 15s. 4d. During the year the operations of the vegetable garden were discontinued.

In the bakehouse, 867,128 lb. of bread and cake were produced at an average cost of 1.853d.

The following works were carried out by the Department of Public Works during the year:—

1. Road repair—Wards 29 and 14.
2. Manager's residence—foundation repairs.
3. Mosquito proof wiring—Wards 29 and 30.
4. Provision of guard for Kosi stove—Ward 29.
5. Widening of main gateway.
6. Heating facilities—general store.
7. Repairs and painting—Ward 10.
8. Installation of electric light—main kitchen corner.
9. Provision of sitting room—No. 2 nurses' quarters.
10. Provision of sink, etc.—No. 2 nurses' quarters.
11. Installation of steam sterilizers in wards.

In addition to the above the following new work has been commenced during the year—

- (a) Installation of hot water service in yard lavatory block.
- (b) Installation of hot water service in yard dormitories.
- (c) Rebuilding of new kiosk.
- (d) Installation of drying cabinet at laundry.
- (e) Concreting of drying yards at laundry.
- (f) Provision of laundry facilities, Jnr. M.O. quarters.

### Expenditure, 1948.

	£ s. d.
Salaries and Payments in the nature of Salaries...	99,790 14 7
Telegraphic .....	395 11 2
Workers' Compensation Premiums .....	782 1 10
Gratuities to Inmates .....	4,830 19 11
Provisions .....	45,298 4 2
Drugs, Dressings, Surgical Applicances, etc. ...	6,901 1 4
Fuel and Lighting .....	5,389 18 5
Forage.....	465 1 4
Materials for minor repairs .....	5,900 13 8
Additions and Renewals to Buildings and Plant	
Transport Expenditure including Freight and Cartage .....	11,123 19 10
Clothing and Drapery .....	1,518 10 2
Hardware, Ironmongery and General Stores.....	6,444 0 8
Furniture .....	1,356 1 3
Office Expenses .....	4,846 11 6
Farm and Garden requisites .....	132 8 5
Sundry Expenses .....	52 8 3
	3,005 16 8
Total .....	198,234 3 2
	£ s. d. £198,234 3 2
Plus stock on hand 1st Jan., 1948 19,045 3 11	19,264 19 5
Exchange A/c. Debits, 1948 .....	219 15 6
	217,499 2 7
Less Stock on hand 31st Dec., 1948 15,988 5 0	20,324 14 10
,, Exchange A/c. Credits 1948... 4,336 9 10	
	197,174 7 9
Less Revenue Collected .....	19,129 2 11
	178,045 4 10
Payments due under Hospital Benefits Act—	
	£ s. d.
120,279 bed days @ 6/- .....	36,083 14 0
126,923 bed days @ 8/- .....	50,769 4 0
	86,852 18 0
	91,192 6 10
Average daily number resident for year.....	1,133 0 0
Average cost per head.....	157 2 11
Average cost per head after deducting claims under Hospital Benefits Act .....	80 9 9

### LIVERPOOL STATE HOSPITAL AND HOME.

#### Report of Medical Superintendent for Year Ended 31st December, 1948.

*Honorary Visiting Staff.*—Consulting Surgeon, B. T. Edye, F.R.C.S.; Surgeon, L. D. Miller, M.B., F.R.C.S.; Assistant Surgeons, A. L. Webb, M.B., F.R.C.S.; J. A. Lawson, M.B., F.R.C.S.; J. A. Manion, M.B., Ch.M.; N. C. Newton, M.B., B.Sc.; Anaesthetist, R. V. Rickard, M.B., Ch.M., F.R.C.S., F.R.A.C.S.; Ear, Nose and Throat Surgeon, H. Eisenberg, M.B., B.S.; Dermatologist, W. A. McDonald, B.A., M.B., Ch.M.; Urologist, R. T. Campbell, M.B., Ch.M.; Neuro-Surgeon, J. R. Tripp, M.B., B.S.

*Staff.*—Though staffing difficulties persisted throughout the year, especially in respect of female nursing personnel, a slight increase in their numbers early in 1948 permitted more operative work being undertaken than had been possible during the later half of the preceding year. The continued employment of additional male staff for Ward duties in vacant nursing posts, as during 1947, obviated the necessity of reducing the number of available hospital beds.

Details of staff actually employed as at 31st December, 1948, are as follows:—

Medical Superintendent, C. R. O'Brien, M.B., Ch.M.; Senior Medical Officer (Acting), J. J. L. McDonald, L.R.C.P.; Manager, E. C. Barrett; Matron, E. C. Stacker; Acting sub-matron, dispenser, two clerks, four office assistants, two storekeepers, nineteen nurses, chief attendant, deputy chief attendant, thirty-three attendants, twenty-six other male staff, eleven other female staff. In addition a part-time medical practitioner attended the outpatients' department three days per week, pending filling of the vacant position of medical officer, whilst a dental surgeon visited the institution fortnightly throughout the year.

*Number of Beds and Wards.*—Hospital division, comprising eleven wards containing 288 beds, though these figures include one ward of twenty-eight beds not at present in use in consequence of nursing staff shortage. Dormitory accommodation for inmates of the home section remained constant at 444 beds throughout the year.

*Admissions and Discharges.*—In residence, 1st January, 1948—667. Admitted during year—2,631. Discharged, 2,211. Died, 413. Total remaining at 31st December, 1948—674. Average daily number resident, 673.98. Average cost per occupied bed—£146 11s. 1d.

#### SUMMARY OF WARD PATIENTS TREATED DURING, 1948.

Section.	In Hospital, 1st January, 1948.	Admitted during Year.	Discharged during Year.	Died.	In Hospital, 31st December, 1948.
Cancer Wards .....	59	124	16	110	57
General Wards .....	171	245	28	220	168
Total .....	230	369	44	330	225
District Ward .....	21	724	645	81	19
Grand Total .....	251	1,093	689	411	244

*Operations.*—A total of 295 operations were performed during the year of which 139 could be classified as major operations.

*Outpatients' Department.*—Twenty-two thousand seven hundred and sixty-nine attendances were recorded during the year.

#### Review of Work.

*Buildings.*—Arising out of shortage of some materials and delays in the manufacture of furnishings, anticipations regarding the availability for use by inmates of the new recreation hall during 1948 were unfortunately not realised.

With floor coverings now laid, however, new tubular steel furniture in position and installation of a new radio receiving set effected, inmates should be enjoying the comfort of the satisfactory appointments provided within a brief period.

Bearing in mind existing difficulties in the procurement of both labour and materials, construction work on the new night workers' dormitory proceeded reasonably satisfactorily during the year. As, at the end of December, outstanding items included only electrical installations and certain internal painting one feels justified in expressing the hope that occupation of these premises will be rendered practicable prior to the advent of the winter months of 1949.

An important work commenced and completed during 1948 which has afforded a considerable measure of convenience to the lessee and to inmates and visitors alike, surrounds the extensions and additions to the hospital kiosk building which were opened in November last, portion of the additional space provided being set apart for the purposes of a tea-room.

Though of small extent, some additional exterior painting which was in progress at the end of 1947 was carried out on the main block during the very early part of the year, whilst part renewal of flooring in the washroom and sanitary annexe at dormitories 12 and 13 and the enclosing of annexes to certain wards, which largely serve as messrooms, constitute additional important works, undertaken or in progress, even if other than of a major character.

*Services.*—The services of the institution generally have been satisfactorily maintained throughout the year.

A provision of considerable importance and benefit to many patients, made available during the year, surrounds the installation in several wards of electric ceiling fans, and it is hoped that additional units will become available at early date to permit of all other sections of the hospital being similarly equipped.

A general overhaul and renewal of water, sewerage and plumbing services at the dormitory section of the Cancer Division was carried out, with considerable benefit, by the Department of Public Works during 1948 as were also repairs to roofs, gutterings and downpipes and the re-surfacing and sealing of the roadway to the nurses' home and that surrounding Nos. 12 and 13 dormitory which was, in addition, fully kerbed and guttered.

Improvement in cooking facilities to the extent of the re-conditioning of the large "Ward" range in the main kitchen and overhaul of the "Aga" cooking unit at the Cancer Block was also effected during the year, and a commencement was made in the final month of 1948 with the installation of improved lighting facilities in certain of the wards and offices.

An outstanding advance was made also during the year in the matter of institutional transport by the provision of a motor lorry of 3½-tons capacity, as a result of which the haulage institutionally of all classes of goods required for the services of this establishment has been undertaken since June last. The organised and controlled basis under which this vehicle operates has been very beneficial to the institution and has eliminated the uncertain features and haphazard aspects heretofore associated with the securing of supplies.

*Entertainments.*—As in past years, frequent Saturday evening concerts were provided during 1948 by organisations and individual parties and the fortnightly cinema entertainments continued to be well patronised by the inmates.

An additional feature aimed at relieving the routine, and possible boredom, largely inseparable from institutional life has been the unannounced-till-the-eleventh-hour midweek concert, provided at irregular intervals throughout the year—entertainments which have been invariably well attended.

To all members of parties who have so contributed in affording pleasure to our inmates grateful thanks are expressed and, in this regard, it is desired to make special mention of the Smith Family who, as in previous years, in addition to providing high-class entertainment have also distributed cakes, fruit, sweets, pipes and playing cards to inmates.

In this latter connection their distributions throughout the institution towards promoting a brighter Christmastide, coupled with Christmas donations in cash made by such associations as the Australian Workers' Union, Waterside Workers' Union, Ex-Imperial Soldiers and Sailors' Sub-Branach to inmate members and ex-members of their respective organisations are particularly noteworthy.

*Farm—Dairy and Piggery.*—It is a matter of regret that work in connection with the restoration of farm lands, buildings and services in that area to its pre-army occupation condition remained practically at a standstill throughout the year under review.

The hope is expressed, however, that materials and labour will be provided during the current year to enable this work to progress, at least, to the stage where re-commencement of pig raising activities, as proposed, can be satisfactorily undertaken.

*Gardens and Grounds.*—The year's operations in the vegetable garden showed a decline in production of approximately 12 per cent. compared with the results achieved during 1947.

Factors which mainly contributed to the reduced vegetable production relate to the destruction by heavy rains of several sowings of root crops, in both pre-germination and seedling stages, during the first half of the year, the absence on sick leave, during a vital period, of the staff gardener which caused a break in the planned spring activities and later, the effect on summer crops of dry climatic conditions accompanied by strong, hot winds.

Even with the operation of such adverse conditions, coupled with the lack of satisfactory supporting labour, however, the total yield approximated 50,700 lb.

In the flower gardening and ground maintenance spheres, as has previously been stated, much improvement could be effected with the appointment of a staff gardener to undertake and control such activities.

With the acquisition during the year of a motor-driven grass-cutting machine, however, some at least of the areas previously overgrown with paspalum and other tall growing grasses now present a much more orderly appearance.

## NEWINGTON STATE HOSPITAL AND HOME.

### Annual Report for Year ended 31st December, 1948.

*Hon. Medical Staff.*—Neurologist—vacant. Ophthalmic Surgeon—vacant.

*Staff.*—Medical Superintendent, J. McManamey, M.B., B.S. (Sydney); Dept. Med. Supt., Lottie Sharfstein, M.B., Ch.M.; Manager, Mr. L. R. McKell; Matron Miss A. Wilson. Nurses, seventy. Dispenser one, Senior Clerk one, Clerk one, Female Office Assistants two, Storekeeper one. Female Office Assistant in Store one. A dentist visits the Institution fortnightly.

*Admissions and Discharges.*—Inmates in institution on 1st January, 1948 = 459. Admissions during year 643. Discharges, 632. Died fifty-four. Remaining in institution at 31st December, 1948 = 416. Average daily number, 438.

#### Hospital Division Statistics.—

Beds available .....	334
In hospital at 1st January, 1948 .....	270
Admissions during the year .....	65
Discharges during the year .....	59
Died during the year .....	53
In hospital at 31st December, 1948 .....	223

#### Expenditure.—

Gross expenditure for year .....	£94,811 0 8
Annual cost per occupied bed .....	£216 9 3
Revenue Collections (Sales) .....	443 2 4

#### Expenditure—Year 1948.

	£ s. d.	
Expenditure as per H.O. Statement .....	90,441 13 6	
<i>Add</i> Stock on hand at 1st January, 1948	14,850 12 6	
	105,292 6 0	
<i>Deduct</i> Stock on hand at 31st December, 1948 .....	10,246 0 0	
	95,046 6 0	
<i>Deduct</i> Proceeds of sales for year .....	443 2 4	
	94,603 3 8	
<i>Add</i> Exchange Services (Dr. Newington) .....	207 17 0	
	Gross Expenditure .....	£94,811 0 8
Average daily number—438.		
Average cost per bed per year—£216 9s. 3d.		

## RANDWICK AUXILIARY HOSPITAL.

### Report for the Year ended 31st December, 1948.

The following are the statistics summarising the work of the hospital during the twelve months ended 31st December, 1948:—

	Males	Females	Total
Indoor Patients—			
Patients under treatment on 31st December, 1947 .....	46	59	105
Admitted during 1948 .....	75	52	127
Total treated during 1948 .....	121	111	232
Died during 1948 .....	38	31	69
Discharged during 1948 .....	22	22	44
Total died and discharged, 1948 .....	60	53	113
Remaining in hospital on 31st December, 1948 .....	61	58	119
Daily average number of resident patients .....	56	59	115
Average residence of discharged and deceased patients in days .....	210	437	317
Number of individuals who received Out-door treatment .....			80
Total number of visits made by outdoor patients .....			1,018
Working Inmates—			
In Institution on 31st December, 1947 .....	11		
Admitted during 1948 .....	41		
Total .....			52

Discharged during the year 1948 .....	40
Remaining in Institution on 31st December, 1948... .....	12
Daily average number .....	12
General daily average number including Workers ... .....	127

## Operations Performed—

Thoracoplasty .....	39
Phrenic Crush .....	36
Thoracoscopy and Oleothorax .....	1
Bronchoscopy .....	65
Abdominal and Pelvic .....	6
Mastoidectomy .....	1
	148
Minor Operations .....	59
Total .....	207

## X-ray Department—

X-ray Examinations .....	1,799
Barium .....	12
Screenings .....	236
Films used .....	1,921
Dental Films used .....	68

## Staff—Standard Establishment.

## Honorary Staff—

Honorary—	
Ear, Nose, Throat Surgeon .....	2
Urologist .....	1
Thoracic Surgeon .....	2
Dermatologist .....	1
Orthopaedic Surgeon .....	1
General Surgeon .....	1
Consulting Physician .....	1
Anaesthetist .....	3
	12

## Medical and Clerical—

Medical Superintendent .....	1
Medical Officer .....	1
Junior Medical Officers .....	2
Manager .....	1
Clerks (Male) .....	2
Office Assistant .....	1
	8

## Nursing—

Matron .....	1
Sub-matron .....	1
Theatre Nurse .....	1
Nurses—Female .....	66
Nurses—Male .....	19
	88

## Domestic Staff—

Wardsmaids and Housemaids .....	34
Kitchenmaids .....	2
Kitchenmaid Cook .....	1
Cooks .....	3
Kitchenmen .....	2
Seamstress .....	1
	43

## Miscellaneous—

Male Cleaners—Cleaning in Wards .....	5
Maintenance of grounds, etc. .....	5
Steam Raising Plant .....	3
Store .....	1
Occupational Therapy .....	1
Dispenser—Female .....	1
Dietitian—Female .....	1
	17

Total Staff, full time, authorised for 202 patients, representing the maximum number yet under treatment .....

## 2. Staff as at 31st December, 1948—

## Staff Shortages.

Nursing staff .....	38
Domestic staff .....	16
Dietitian .....	1
Dispenser .....	1

The staff shortages at the end of the year were approximately the same as at 31st December, 1947.

Appended is a statement of the shortages:—

	31/12/47	31/12/48
Nursing staff .....	39	38
Domestic staff .....	13	16
Dietitian .....	1	1
Dispenser .....	1	1

The hospital was fortunate in obtaining the appointment of an occupational therapist, who is performing valuable work.

Although the staff position remained static during the year, an increase was made in the number of patients from 105 on 1st January, 1948, to 119 on 31st December, 1948.

The undermentioned schedule illustrates the fluctuation in the number of patients in residence since the peak year of 1942:—

## Daily Average Number of Patients.

1942 .....	200.2
1943 .....	194
1944 .....	185
1945 .....	152.69
1946 .....	123.9
1947 .....	107
1948 .....	115

Total cost of maintenance—£63,675 18s. 1d.

Average cost per inmate per year—£509 3s.

## ANNUAL REPORT OF THE WATERFALL SANATORIUM AS AT 31st DECEMBER, 1948.

1. (a) Number of beds available on 31st December, 1948—	Male.	Female.	Total.
Patients .....	292	176	468
Working Inmates .....	129	19	148
Patients. Workers. Total.			
(b) Remaining in hospital on 31st December, 1947 .....	168	120	288
Admitted during 1948 .....	198	668	866
Total treated during 1948 .....	366	788	1,154
Number discharged .....	125	667	792
Number died .....	45	...	45
Remaining in hospital on 31st December, 1948 .....	196	121	317
Average daily number resident...			
Average residence of discharged patients in days.....	186	121	307
Total cost of maintenance and treatment of £ s. d.			
Indoor Patients .....	77,781	4 11	
Average daily number of inmates resident.....	307	£ s. d.	
Average cost per inmate .....	253	7 2	
Average daily number of patients resident .....	196	£ s. d.	
Average cost per patient .....	418	3 11	
(c) Outpatients or individuals who received treatment...	48		
Total number of attendances .....	62		

2. Staff as at 31st December, 1948—	Actually em- posts.	ployed.	Vacant.
Honorary Medical Staff .....	2	2	...
Medical Staff .....	5	5	...
Managerial and Clerical .....	3	3	...
Nursing Staff Female .....	49	16	33
Nursing Staff Attendants .....	23*	18	5
Male Outdoor Staff .....	28	23	5
Female Outdoor Staff .....	14	14	...

\* Includes 6 Attendants in lieu of Nurses

## Visiting Staff—

Radiologist .....	1
X-ray Technician .....	1
Clergymen .....	2

Total .....	4
	172

## DAVID BERRY HOSPITAL.

## Report for the Year ended 31st December, 1948.

Following are the statistics summarising the work of the hospital during the year ended 31st December, 1948:—

Indoor Patients—	Males.	Females.	Total.
Patients under treatment on 31st December, 1947 .....	7	6	13
Admitted during 1948 .....	260	201	461
Total treated during 1948 .....	267	207	474
Died during 1948 .....	14	6	20
Discharged during 1948 .....	247	195	442
Total died and discharged, 1948... .....	261	202	463
Remaining in hospital on 31st December, 1948 .....	6	5	11
Births during 1948 .....	5	4	9
Daily average number of resident patients .....	6.3	5.7	12
Average residence of discharged and deceased patients in days .....	8.8	10.4	...
Number of individuals who received out-door treatment .....	...	...	118
Total number of visits made by out-door patients .....	...	...	140
Working Inmates—			
In institution on 31st December, 1947.....	2		
Admitted during 1948 .....	...		
Total .....	2		
Discharged during 1948 .....	...		
Remaining in institution on 31st December, 1948... .....	2		
Daily average number .....	2		
General average number (daily) including workers... .....	14		
Operations Performed—			
Head, face, sinus, E.N.T. .....	9		
Abdominal .....	44		
Orthopaedic .....	14		
Gyno. and curettes, etc. .....	26		
Dental .....	13		
General—mostly minor operations..... .....	26		
	132		
X-ray Department—			
Films used (includes 43 dental films)..... .....	316		

## Standard Establishment.

Medical and Clerical—			
Medical Officer (part time) .....	1		
Clerk (Male) .....	1		
	2		
Nursing—			
Matron .....	1		
Head Nurse .....	1		
Trained Nurses .....	5		
Assistants in Nursing .....	3		
	10		
Attendants—			
Indoor Attendant .....	1		
Outdoor Attendant .....	2		
	3		
Domestic Staff—			
Wardsmaids and Housemaids .....	5		
Housemaid—Part-time Cook .....	1		
Cook .....	1		
Laundress .....	1		
	8		
Total Authorised Staff .....	23		

## Staff Shortages on 31st December, 1948—

Nursing Staff .....	2
---------------------	---

Throughout the year staff shortages were again periodically very acute, and this was responsible on occasions for the admission of patients being limited. In its turn, this was responsible for the daily average being lower than the previous year and for the appreciable difference in the number of operations which were performed.

## LEPER LAZARET.

## Report on Leprosy in New South Wales for the Year ended 31st December, 1948.

On 1st January, 1948, seventeen (17) persons remained under detention at the Lazaret.

One death occurred during 1948.

The total number of persons admitted since 1883, when patients were first received (though the notification of leprosy was first made compulsory and the detention of lepers provided for by law only towards the end of 1900), is 226. Distributed under nationalities, the account stands as follows at 31st December, 1948:—

	Ad-mitted.	Read-mitted.	Dis-charged.	Repatri-ated.	Died.	Remaining in at 31 Dec., 1948.
Whites. of European decent—						
New South Wales .....	...	1	...	...	...	4
Victoria .....	...	...	...	...	...	1
Queensland .....	...	...	...	...	...	...
Northern Territory .....	...	...	...	...	...	...
Western Australia .....	...	...	...	...	...	1
New Zealand .....	...	...	...	...	...	...
Fiji .....	...	...	...	...	...	1
England .....	...	...	...	...	...	...
Ireland .....	...	...	...	...	...	...
Scotland .....	...	...	...	...	...	...
Germany .....	...	...	...	...	...	...
Belgium .....	...	...	...	...	...	...
U.S. America .....	...	...	...	...	...	...
Greece .....	...	...	...	...	...	...
Malta .....	...	...	...	...	1	4
Sweden .....	...	...	...	...	...	...
France .....	...	...	...	...	...	...
Mauritius .....	...	...	...	...	...	...
Italy .....	...	...	...	...	...	...
Coloured patients—						
New South Wales .....	1	...	...	...	...	5
West Indies .....	...	...	...	...	...	...
India .....	...	1	...	...	...	...
China .....	...	...	...	...	...	1
Straits Settlements .....	...	...	...	...	...	...
Java .....	...	...	...	...	...	...
New Calcedonia .....	...	...	...	...	...	...
Pacific Islands .....	...	...	...	...	...	...
Egypt .....	...	...	...	...	...	...
Zanzibar .....	...	...	...	...	...	...
Syria .....	...	...	...	...	...	...

Thus the number remaining in the Lazaret on 31st December, 1948, was 19 persons; 12 males and 7 females.

Every opportunity has been offered to members of the medical profession to visit the Lazaret for the purpose of seeing such patients as were formerly under their care, or for study of the disease.

The following statements show the expenditure for the year, and the sources from which it has been defrayed:—

## Statement showing the Working Expenses of the Lazarets (for men and women) at Little Bay for the year 1948.

	£
Salaries .....	5,689
Provisions .....	2,787
Tobacco and comforts, clothing, fuel and light, drugs, dressings, etc. .....	2,392
Miscellaneous .....	470
	£11,338

Deduct amounts received in respect of maintenance, £3,042 18s. 6d.; Net cost, £8,295 1s. 6d.

Average number of patients resident, 18.05, being equal to an average of £459 11s. 3d. per inmate per annum in 1948.

In Lazaret on 1st January, 11 males, 6 females, total 17; admitted during the year, 2; died during the year, 1; discharged, 0; repatriated, 0; re-admitted, 1.

Remaining in Lazaret on 31st December—males, 12; females, 7; total, 19.

## STATISTICAL SUMMARY.

TABLE I.—Summary of Expenditure—State Hospitals and Homes Lidcombe, Liverpool and Newington, Waterfall Sanatorium, Strickland Convalescent Hospital, Randwick Auxiliary Hospital and David Berry Hospital for the Year Ended 31st December, 1948.

Head of Expenditure.	Lidcombe.	Liverpool.	Newington.	Waterfall.	Strickland.	Randwick.	David Berry.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Salaries and Payments in the Nature of Salaries .....	99,790 14 7	42,299 6 8	32,744 3 1	30,429 13 3	5,731 4 10	39,718 10 3	6,881 4 4	257,594 17 0
Telegraphic .....	395 11 2	270 6 4	214 8 9	148 12 6	26 1 10	138 3 10	.....	1,193 4 5
Workers' Compensation Premiums .....	782 1 10	268 16 2	253 3 4	340 3 4	44 10 11	385 5 0	39 11 7	2,113 12 2
Gratuities to Inmates .....	4,830 19 11	4,422 17 3	2,672 12 5	2,137 0 9	320 0 0	253 13 0	.....	14,637 3 4
Provisions.....	45,298 4 2	22,171 8 3	18,215 14 7	19,898 2 5	4,184 7 11	9,790 19 2	1,111 9 1	120,670 5 7
Drugs, Dressings, Surgical Appliances, etc. ....	6,901 1 4	3,076 13 3	1,163 11 1	1,836 2 2	30 11 2	2,825 8 8	715 5 5	16,548 13 1
Fuel and Lighting .....	5,389 18 5	2,456 5 7	2,626 19 11	3,854 1 9	538 8 6	1,706 10 1	366 8 5	16,938 12 8
Forage .....	465 1 4	125 5 10	389 0 11	191 0 11	.....	75 7 3	1 17 4	1,247 13 7
Materials for minor Repairs .....	5,900 13 8	6,956 15 7	9,622 1 0	1,442 6 11	569 12 0	3,158 17 3	.....	27,650 6 5
Additions and Renewals to Buildings and Plant .....	11,123 19 10	4,172 16 9	12,599 17 3	12,099 12 1	204 3 6	1,703 10 7	1,134 0 0	43,038 0 0
Transport Expenditure, including Freight and Cartage .....	1,518 10 2	848 5 10	895 3 9	1,994 11 9	10 12 4	141 11 10	290 14 7	5,699 10 3
Clothing and Drapery .....	6,444 0 8	5,430 17 4	4,585 14 3	2,542 12 5	622 6 6	981 14 9	.....	20,607 5 11
Hardware, Ironmongery and General Stores .....	1,356 1 3	607 8 0	1,129 6 1	643 9 7	247 16 4	410 19 5	.....	4,395 0 8
Furniture .....	4,846 11 6	1,581 19 0	1,856 13 9	615 2 5	910 16 11	833 8 0	.....	10,644 11 7
Office Expenses .....	132 8 5	36 6 10	143 18 4	27 7 5	9 5 8	68 15 4	.....	418 2 0
Farm and Garden Requisites .....	52 8 3	79 18 0	42 13 8	20 8 4	1 18 11	17 6 2	3 16 9	218 10 1
Sundry Expenses .....	3,005 16 8	2,040 11 1	1,286 11 4	464 5 9	31 5 7	1,904 1 6	1,242 4 7	9,974 16 6
Miscellaneous .....	{ Dr. Cr.)	198,234 3 2	96,845 17 9	90,441 13 6	78,684 13 9	13,483 2 11	64,114 2 1	553,590 5 3
		.....	1,930 17 5	207 17 0	786 10 9	600 5 11	38 19 9	.....
		4,117 14 4	.....	.....	.....	.....	.....	545 19 4
Gross Expenditure .....	194,116 8 10	98,776 15 2	90,649 10 6	79,471 4 6	14,083 8 10	64,153 1 10	11,793 16 3	553,044 5 11
Add—Stock on Hand at 1st January, 1948 .....	19,045 3 11	7,571 18 9	15,350 12 6	4,646 10 1	751 0 2	1,850 13 3	374 0 0	49,589 18 8
	213,161 12 9	106,348 13 11	106,000 3 0	84,117 14 7	14,834 9 0	66,003 15 1	12,167 16 3	602,634 4 7
<i>Deduct—</i>								
Stock on Hand 31st December, 1948...	15,988 5 0	10,237 13 8	10,246 0 0	5,372 5 5	1,186 13 7	2,298 1 5	461 0 0	45,789 19 1
Proceeds of Sales .....	1,330 2 2	358 16 10	548 0 6	853 13 9	5 0	29 15 7	.....	3,120 13 10
Total Deductions .....	17,318 7 2	10,596 10 6	10,794 0 6	6,225 19 2	1,186 18 7	2,327 17 0	461 0 0	48,910 12 11
Total Cost of Maintenance .....	195,843 5 7	95,752 3 5	95,206 2 6	77,891 15 5	13,647 10 5	63,675 18 1	11,706 16 3	553,723 11 8
Average Daily Population.....	1,133	674	438	186	85	126	14	...
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Average Annual cost per Inmate .....	171 6 7	146 11 1	206 19 3	427 5 4	165 13 9	509 3 0	842 8 3	.....
Annual Contribution towards Maintenance (a).....	17,230 6 5	15,285 19 1	6,387 11 7	433 1 3	1,178 7 9	97 15 0	129 2 10	40,742 3 11

(a) Does not include payments made to the Treasury by the Commonwealth Government under the Hospital Benefits Scheme.

## SECTION IV.

## PATHOLOGICAL LABORATORY.

## REPORT OF THE DIRECTOR OF PATHOLOGICAL LABORATORIES FOR THE YEAR 1948.

*Director.*—Ernest L. Morgan, M.B., Ch.M. (Syd.).

*Assistant Director.*—Keith H. Grieve, M.C., M.B. (Syd.).

*Medical Officers.*—Stanley W. M. King, L.R.C.P. (Lond.), M.R.C.S. (England); Walter H. Corbett, M.B., B.S. (Syd.), resigned 5/4/48; Farquhar W. Fraser, M.B., Ch.B. (Syd.); David J. Howell, M.B., B.S., resigned 23/2/48; Stephen G. Mallarky, M.B., B.S., D.T.M., commenced duty 6/5/48; John D. Murphy, M.B., B.S., commenced duty 6/9/48.

*Microbiologist Senior.*—H. V. Justelius.

*Microbiologists.*—L. H. Snell, A.S.T.C., A.A.C.I.; W. C. Thompson; Miss A. Playoust, B.Sc. (Syd.); A. P. Westwood, R. Truman, B. O'Connor.

*Laboratory Assistants.*—A. J. Williamson, J. Flynn, D. Croft (absent on extended study leave), E. Jacob (absent on extended study leave), L. F. Horton, K. Fraser, J. F. Wills, D. Brown, B. D. Hill, J. B. Jones, W. Thyer.

*Clerical.*—Miss N. E. Seahill, Miss E. Starr, Miss J. Barrett (part-time), 1 messenger (resigned March, 1948).

*Attendants.*—H. J. Moseley, A. V. Lynch, J. W. Foster, J. Fletcher, L. Hinds.

Sir,

I have the honour to submit the following summarised report, dealing with the work performed in the Microbiological Laboratory during 1948.

The amount of revenue collected for examinations carried out by the Laboratory and for sales of Media, etc., was £1,115 2s. 8d.

The total number of general laboratory examinations carried out during the year was 72,455, and examinations of rats for plague numbered 898. Compared with the number of general examinations carried out in 1947 (75,961), the figures show a slight but insignificant decrease, which is mainly accounted for in the decreased number of examinations carried out in connection with gonorrhoea. This decrease, together with other variations, is discussed below under separate disease headings:—

*Diphtheria.*—Although from time to time small outbreaks of diphtheria continue to occur in country centres, the number of swabbings submitted for examination for diphtheria bacilli has further declined from 3,059 in 1947 to 2,770 in 1948. Toxicity tests, however, increased from 62 in 1947 to 219 in 1948.

*Typhoid and Typhus Fever.*—During the year, two carriers of typhoid bacilli were detected in contacts of two separate cases of typhoid fever that were investigated by Dr. Drew, the Metropolitan Medical Office of Health. Typhoid bacilli were also found to be still present in the faeces of a carrier, who was detected in 1947. The number of laboratory investigations in connection with these diseases, however, is still low compared with past years.

*Anthrax.*—Three specimens were submitted during the year for examination for anthrax bacilli but all yielded negative results.

*Tuberculosis.*—The number of specimens submitted for examination for tubercle bacilli was 1,362, compared with 948 in 1947—an increase of 414.

*Malaria.*—There has been a further decrease in the number of slides submitted for examination for malarial parasites, the figures being 173 in 1947 and 62 in 1948. Of these, in 14 instances malarial parasites were found; in each case the parasite was plasmodium vivax.

*Gonorrhoea and Syphilis.*—The number of tests carried out in connection with Gonorrhoea shows a combined decrease of 2,942. Smears decreased from 9,755 in 1947 to 7,567 in 1948 and complement deviation tests from 4,571 to 3,817. The figures for syphilis show little variation from the previous year, the figures being 21,963 Wassermann tests and 21,158 Kahn tests in 1947 compared with 21,863 Wassermann tests and 20,569 Kahn tests in 1948.

*Milk.*—The number of samples of milk submitted by the Milk Board for determination of bacterial content was 2,213 in 1948, representing an increase of 397 on the number of similar examinations carried out in 1947. On the other hand, samples submitted for examination for tubercle bacilli and brucella abortus decreased in number by 93, the respective figures for 1947 and 1948 being 477 and 384. Brucella abortus was detected in 40 different samples but no samples were found to contain tubercle bacilli.

*Histological Examinations.*—This section of the laboratory activity has shown a slow but steady increase over many years and during 1948, 2,959 specimens were submitted for histological examination. While it would be expected that the appointment of pathologists to public hospitals would reduce the number of specimens, such is not always the case, as many pathologists do not consider themselves competent to give an opinion on sections of pathological tissue and these pathologists usually send an increasing number of specimens to this laboratory for examination.

*Accommodation.*—From year to year the need for additional accommodation has been stressed. Until such need has been met, the staff must continue to work in overcrowded rooms and the possibility of any increase in the activities of the laboratory must be considered remote.

Table showing the routine examinations made for the various branches of the State Department of Public Health, other Government departments, subsidised hospitals, etc.

	Number of Examinations Comparative Statement	
	1947.	1948.
Department of Public Health—		
Head Office Submissions .....	24,668	22,524
David Berry Hospital .....	8	37
Lidcombe State Hospital and Home .....	1,636	1,689
Liverpool State Hospital and Home .....	229	304
Newington State Hospital and Home .....	9	10
Waterfall Sanatorium .....	16	20
Medical Officer of Health, Metropolitan District	7	...
Medical Officer of Health, Hunter River District	2	1
Randwick Auxiliary (T.B.) Hospital .....	143	345
Commonwealth Government .....	3,529	3,988
State Departments—		
Agriculture Department .....	...	...
Education Department .....	8	23
Child Welfare Department .....	20	...
Government Stores Department .....	...	16
Milk Board .....	2,316	2,600
Police Department .....	103	119
Prisons Department .....	795	760
Railway Department .....	17	2
Miscellaneous Government Departments .....	49	27
Private Practitioners .....	13,223	12,531
Public Hospitals and Institutions (other than State Hospitals) .....	14,305	14,043
Mental Hospitals .....	7,291	7,572
Municipal and Shire Councils .....	234	356
Rachel Forster Hospital .....	7,353	5,488
Total Examinations (General) .....	75,961	72,455
Rats for Plague .....	1,625	898
	77,586	73,353

In the following Statement the routine work is divided into sections to disclose the purposes for which the various examinations were made.

	Number of Examinations Comparative Statement.				Number of Examinations Comparative Statement.			
	1947.	1948.			1947.	1948.		
<b>A. MICROBIOLOGICAL EXAMINATIONS.</b>								
1. Of materials from diseased persons and animals—								
Actinomycosis	...	5						
Brucella Abortus	45	19						
Diphtheria Swabbings	3,059	2,770						
Diphtheria Toxicity	62	219						
Dysentery	4	54						
	3,170	3,067						
Gonorrhoea (smears and urine)	9,755	7,567						
Gonorrhoea Complement Deviation Test	4,571	3,817						
Haemolytic Streptococci	359	283						
Hydatids (sputa, smears, etc.)	4	28						
Hydatid (Complement Deviation Test)	38	62						
Leprosy (Human)	102	139						
Malaria	173	62						
Meningitis	2	6						
Syphilis (Wassermann Reactions)	21,963	21,863						
Syphilis (Kahn)	21,158	20,597						
Syphilis (Spirochaetes)	763	687						
Tetanus	12	1						
Tinea (Monilia, etc.)	9	12						
Tuberculosis	948	1,362						
Typhoid (Widal Reaction)	49	47						
Typhoid (Urine, Faeces)	57	110						
Typhoid (Miscellaneous Water, Milk, etc.)	11	...						
Typhus (Weil Felix)	37	21						
Unclassified : "No growths" from pus, etc.	385	323						
Vincent's Angina	29	36						
Rat Leprosy	4	...						
Glandular Fever (Paul and Bunnell)	41	42						
Paratyphoid A and B	25	5						
2. Examinations for Anthrax—								
Human beings	5	3						
Shaving brushes, etc.	...	...						
Wool	...	...						
3. Examinations of Materials, etc.								
Chemical closet contents	2	22						
Disinfectants (Rideal Walker)	3	27						
Feathers	...	...						
Soil	9	22						
Waters	227	323						
Water from swimming baths	41	4						
4. Examination of Foods for Bacterial Contamination—								
Bread, ice-cream, etc.	29	...						
Milk samples submitted by the Milk Board for examination for Tubercle Bacilli and B. Abortus	477	384						
Milk samples for Bacteriological count submitted by the Milk Board	1,816	2,213						
Miscellaneous milks for Bacterial counts, etc.	23	...						
5. Examinations for Food Poisoning	18	27						
<b>B. PATHOLOGICAL EXAMINATIONS.</b>								
1. Of Animals—								
Mammals	...	1						
Fish	...	...						
2. Of Body Fluids—								
Blood for full and differential count	1,228	1,178						
Blood for sedimentation rate	6	11						
Miscellaneous examinations	9	3						
Blood typing	4	2						
<b>B. PATHOLOGICAL EXAMINATIONS—continued.</b>								
Chemical Examinations—								
Blood for sugar	59	137						
Blood for sugar tolerance	259	244						
Blood for urea estimation	131	99						
Blood for creatinine	20	7						
Serum acid phosphatase	160	231						
Blood for cholesterol	68	41						
Blood for fibrin, globulin, albumen	59	63						
Urine for sugar	50	43						
Urine for urea	140	68						
Test meal specimens	583	467						
Calculus	9	15						
Miscellaneous chemical examinations	254	384						
Cell counts	539	455						
Colloidal gold reaction	643	607						
Protein, globulin and total protein	594	373						
Takata ara	317	193						
Chlorides	128	97						
Miscellaneous cerebro spinal fluids	24	17						
Faeces	139	161						
Urine (General Examinations)	389	423						
3. Of Tissues for Histological Examination	2,575	2,959						
<b>C. EXAMINATION OF PARASITES.</b>								
Ecto-parasites (fleas, ticks, etc.)	5	2						
Endo-parasites (round and flat worms, etc.)	107	85						
Protozoa	...	22						
Insects (flies, mosquitoes)	...	...						
<b>D. MEDICO-LEGAL EXAMINATIONS.</b>								
Examination of Exhibits for blood, seminal stains, etc.	103	131						
<b>E. EXAMINATION OF SPECIMENS FOR PREPARATION OF VACCINES AND MISCELLANEOUS EXAMINATIONS.</b>								
Preparation of autogenous vaccines from sputa, urine, aere pustules, boils, wounds and other septic conditions	413	342						
Trichomonas	12	21						
Lotions and mixtures	...	...						
Utensil swabs	540	385						
Weils Disease	...	...						
Miscellaneous (General)	69	16						
Spermatozoa	9	3						
	75,961	72,455						
The following table indicates the Rats and Mice destroyed and examined at Sydney and Newcastle during the year ending 31st December, 1948.								
	1948, Sydney.				1948, Newcastle.			
	R.R. Rattus.	Rattus Norveg- icus.	M. Mus- culus.	Total.	R.R. Rattus.	Rattus Norveg- icus.	M. Mus- culus.	Total.
January ...	22	56	3	81	2	2	...	4
February	34	47	...	80	1	1	...	2
March	6	42	...	49	3	2	...	5
April	40	44	11	95	1	1	...	2
May	43	52	6	101	3	5	...	8
June	60	41	2	103	4	2	...	6
July	44	37	1	82	1	5	...	5
August	21	40	2	63	2	3	...	5
September	10	34	...	44	...	2	...	2
October	14	35	1	50	5	3	...	8
November	27	31	...	58	2	4	...	6
December	9	29	...	38	...	...	...	...
Total ...	330	488	26	844	24	30	...	54

